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The changing face of the contracting professional in the Department of Defense

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THESIS

THE CHANGING FACE OF THE CONTRACTING PROFESSIONAL IN THE DEPARTMENT OF DEFENSE

by

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December 2001

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This study examines the changing role of the contracting professional in the Department of Defense. Specifically, it examines the work effort of the contemporary contracting professional, the primary factors driving the need for changes in the conduct of contracting, the skills that are necessary in order to perform effectively, and finally, selected innovative contracting methodologies that can be employed by the contracting professional. Review and analysis of past and current contracting activities, Government documents, websites and acquisition literature, and interviews with contracting professionals provided the basis for this study. The research concludes that the acquisition environment of today and that of the future will demand an increasingly sophisticated and flexible set of acquisition skills, widely and thoroughly dispersed among, understood and effectively applied by contracting professionals. In addition to this flexible set of skills, several innovative contracting methods exist in the acquisition arena today, such as electronic commerce and performance-based acquisition, that are available to the contracting professional to utilize in supporting the customer in the best possible manner. Education and training of the contracting professional are necessary to equip him with the needed skills and the ability and confidence to use new and innovative contracting methodologies.

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THE CHANGING FACE OF THE CONTRACTING PROFESSIONAL IN THE DEPARTMENT OF DEFENSE

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Submitted in partial fulfillment of the
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ABSTRACT

This study examines the changing role of the contracting professional in the Department of Defense. Specifically, it examines the work effort of the contemporary contracting professional, the primary factors driving the need for changes in the conduct of contracting, the skills that are necessary in order to perform effectively, and finally, selected innovative contracting methodologies that can be employed by the contracting professional. Review and analysis of past and current contracting activities, Government documents, websites and acquisition literature, and interviews with contracting professionals provided the basis for this study. The research concludes that the acquisition environment of today and that of the future will demand an increasingly sophisticated and flexible set of acquisition skills, widely and thoroughly dispersed among, understood and effectively applied by contracting professionals. In addition to this flexible set of skills, several innovative contracting methods exist in the acquisition arena today, such as electronic commerce and performance-based acquisition, that are available to the contracting professional to utilize in supporting the customer in the best possible manner. Education and training of the contracting professional are necessary to equip him with the needed skills and the ability and confidence to use new and innovative contracting methodologies.

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TABLE OF CONTENTS

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LIST OF FIGURES

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I. INTRODUCTION

A. BACKGROUND

Acquisition policies and practices within the Department of Defense have been buffeted by changes in the past decade, including acquisition reform, budget cuts and downsizing, new qualification standards for the 1102 series (Contracting), cross-functional teaming arrangements, performance measures and commercial item acquisitions [Ref. 1]. Each of these elements is driving the need for change in the way in which the contracting professional conducts business.

The roles of the contracting officer and contract specialist need to continue to grow and expand to deal with these changes and constraints occurring throughout the Department of Defense. For example, the scope of work that the contracting professional will be required to deal with in the future is going to be very different from the work performed by those same individuals in the past. New skills will be required for the contracting professional to be relevant and add value to any program that he supports. These new skills would include financial management, greater customer focus, enhanced communication as well as other skills that will round out the current skill set of the contracting professional.

The requirements that the contracting professional becomes involved in must be expanded as well. The contracting professional can no longer simply operate at the end of the acquisition cycle by "putting it on contract." He must position himself in the acquisition team as a valued member at the front end of the requirement

cycle. This would include detailed, early involvement in areas such as specification development, market research and source identification.

New skills and mindsets will need to be developed and nurtured in order for this to happen. Old skills such as rule quoting, regulation knowledge and policing of the process will need to be enhanced with new skills that will help the contracting professional better support the acquisition as a "business manager." This "business manager" will need to be a strong leader, an extrovert, and be an excellent communicator. Furthermore, he will also have to be analytical and have a burning desire to satisfy the customer [Ref. 1].

Acquiring these new skills will be a challenge, but it is a necessary and achievable task. Courses designed to provide the contracting professional with business management, leadership, financial management and communications skills need to be included in the contracting professional's standards. Support from middle and upper management for this type of training is essential to their implementation and success.

By becoming a business manager, the contracting professional can utilize new and innovative methods to apply sound business practices in Department of Defense contracting that will ultimately benefit the customer. New methods of doing business, such as performance and price based acquisition, commercial item acquisition, reverse auctioning, and paperless contracting are just a few of the ways that the business manager could apply sound business practices to the contracting arena.

Finally, in order for this contracting professional to become a true business manager, there must be operational and organizational changes in the way acquisition personnel and buying commands conduct business.

In the words of Allan Burman, "Today's challenge is to ensure that the workforce possesses the knowledge, skills and enthusiasm" to effectively deal with the constantly changing environment throughout the Government [Ref. 2].

B. OBJECTIVE

The purpose of this thesis is to thoroughly examine the changing role of the contracting professional. In the words of Gregory Doyle, "Far beyond being an expert technician, the contracting professional must exude distinctive qualities that will make him or her an indispensable member of the overall acquisition team." [Ref. 2: p. 560]. This thesis identifies and demonstrates these changing roles.

While addressing the areas raised in the background section above, the researcher intends to provide a paper that will contain useful, relevant and timely information for the contracting professionals of the Communication Electronics Command Acquisition Center.

Specific objectives pursued in this research effort include the following:

- An exploration and definition of what work effort the contracting professional currently performs as well as the duties he may be required to perform in the future
- A determination as to what is necessitating a change in the way the contracting professional conducts business
- A discussion of the critical skills necessary for the business manager to perform effectively for

his/her organization and the methodology for acquiring these skills

- A review of selected new and/or innovative methods that the acquisition manager may use to apply sound business practices in Department of Defense contracting

Information gathered from these main objectives was used to develop the answer to the primary thesis question, as discussed below in Section C-Research Questions.

C. RESEARCH QUESTIONS

The following primary research question is as follows:

- What are the critical skills necessary for the contracting professional to become a business manager in support of Department of Defense requirements and how might these skills be developed?

In support of the primary research question, the following subsidiary research questions were addressed:

- What work effort does the contracting professional perform today and what might be expected in the future?
- What are the key drivers that are necessitating a change in the way the contracting professional conducts business?
- What are the critical skills necessary for the business manager to perform effectively for his/her organization and how might these skills be acquired?
- What new and innovative methods could the acquisition manager use to apply sound business practices in Department of Defense contracting?
- How can the new contracting professional use his new skills in the application of new and/or innovative contracting methods?

D. SCOPE, ASSUMPTIONS AND LIMITATIONS

The scope of this thesis includes, as stated in previous sections, the following areas: 1) an analysis of the work effort performed in the contracting field today

and what might be required in the future; 2) an analysis of the key drivers necessitating a change in the way the contracting professional conducts business; 3) an analysis of the critical skills necessary for the contracting professional to become an effective business manager; 4) an examination of new and innovative methods the acquisition manager can use to apply sound business practices in Department of Defense contracting and finally, 5) an analysis of those critical skills the contracting professional uses in the application of the innovative contracting methods discussed herein.

1. Summary of Assumptions

- Given the current contracting arena of "quicker, better, cheaper," the contracting professional cannot continue to function at a high level of efficiency without adapting to the changes occurring throughout his working environment such as the shrinking workforce and the push of acquisition reform
- The Department of Defense encourages the adoption of commercial business practices throughout the acquisition arena to include the contracting professional as a business manager
- The acquisition professionals interviewed for this thesis have the requisite experience and knowledge to proffer relevant observations and acceptable business solutions
- Acquisition personnel want to evolve into business managers to better serve the needs of all stakeholders

2. Summary of Limitations

- The informal interviews conducted represent a small cross-section of the type of employee found throughout Government acquisition offices. The information provided is not to be construed as a general consensus of all Government contracting offices, but can provide insight into the nature of the contracting field.

- The area of study is currently changing at a rapid pace and continues to change as the research is conducted.

E. LITERATURE REVIEW AND METHODOLOGY

To answer the research questions presented in the previous section, a qualitative research approach was employed that included a comprehensive literature review, informal interviews, and workplace observations based upon personal experience with the Federal procurement process. However, this workplace observation may appear to be somewhat subjective at times.

Initially, research was conducted via literature review that consisted of books, articles, acquisition related websites via the Internet, in-house reviews of applicable briefings concerning the contracting professional, as well as General Accounting Office reports, Department of Defense Inspector General reports and other similar documents.

The review provided the information which allowed this researcher to identify the current skills that the contracting field utilizes as well as the current areas that the contracting professional is involved in to meet the Department of Defense supply and services needs.

In addition, a great deal of information was located that delineated the reasons that the contracting professional needs to evolve to include business management as one of its key duties. Research also resulted in the ability to determine what the necessary skills will be for that contracting professional to become a business manager to better support the customer and to effectively

compensate for the myriad of changes occurring throughout the Federal acquisition process.

Secondly, informal inquiries were conducted with highly respected and knowledgeable members of the Communication Electronics Command Acquisition Center's Management Staff, as well as working level contract specialists and contracting officers. This part of the research focused on what, if any, new contracting methods they had utilized. It also addressed the success, ease of use, and lessons learned from these new contracting methods. The discussions also provided information concerning what, if any, additional education and training courses these professionals would like to see added to their required training career development portfolios.

Finally, as a result of these interviews, the researcher was able to ascertain what these people believed were the most important changes required throughout the organization that would be necessary to effectively integrate this new business manager into the organization.

F. DEFINITIONS

The following definitions are key to understanding the concepts presented in this thesis:

- Contracting Professional: A contracting professional can be defined as a person who manages, supervises, performs, or develops policies and procedures for work involving the procurement of supplies and services. The primary knowledge required of this person is of legislation, regulations and methods used in contracting. Less emphasis is currently placed upon knowledge of business and industry practices. [Ref. 4]
- Business Manager: A business manager can be defined as a person who approaches his job from a strategic perspective. The business manager

> employs a systems approach throughout the supply chain management function. This individual continually embraces and leverages his skills and knowledge of critical supply chain activities to provide value in meeting mission accomplishment and product or service fulfillment. [Refs. 5 & 6]

G. ORGANIZATION OF STUDY

The focus of this thesis is to explore the changing role of the contracting professional in the Department of Defense.

Chapter I presents the research question, scope and methodology of this thesis. Chapter II defines the current work effort performed by the contracting professional, and describes the factors that are driving the need for a change in the way the contracting professional conducts business for both the Department of Defense Civilian Workforce as a whole and the Communications Electronics Command Acquisition Center individually. It then provides a description of the duties he may be required to perform in the future.

Chapter III provides an analysis of the critical skills necessary for the business manager to perform effectively for his/her organization and the methodology for acquiring these skills.

Chapter IV provides an examination of new and/or innovative methods that the acquisition manager may use to apply sound business practices in Department of Defense contracting.

Chapter V analyzes the application of the critical skills outlined in Chapter III to the innovative contracting methods presented in Chapter IV.

Chapter VI presents conclusions and recommendations generated by the study as well as answers the research questions and suggests areas for further research.

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II. BACKGROUND

A. INTRODUCTION

The purposes of this chapter are to define the current work effort performed by the contracting professional, to delineate the factors driving the need for a change in the way the contracting professional conducts business and finally to explore the duties the contracting professional may be required to perform in the future as a result of these changes.

The area addressed in this chapter is the crossroads for the preparation and administration of Government contracts. Specifically, it examines the acquisition personnel who literally stand "where the rubber hits the road" in relation to safeguarding tax dollars while providing the warfighter in the field with the best equipment and services available. Those personnel are the contracting officer and contract specialist. This information is used to provide an exploration for the need to change the way the contracting professional conducts business to meet the needs of the warfighter.

In developing this research, I conducted a literature search of books, Government documents, journals and credible Internet based sources.

B. HISTORY

Since the days of George Washington and the emergence of the colonies as a nation, the military has needed equipment, food and services during times of peace and war. It was understood throughout the history of warfare that the armies with the best supplies and equipment were usually victorious.

Government contracting began as simple purchases for weapons and basic commodities such as beef, salt, uniforms for the soldiers, feed, harnesses for the horses and gunpowder. Services for the troops, officers and care of livestock were also required. Purchasing was done within a loose set of rules governed by those who did the buying and those who controlled the money [Ref. 7]. In many instances these were one and the same. For every good purchase, there was usually a bad one. The bad buys, often marked by poor quality goods, kickbacks, purchases from friends and relatives, had a negative impact on the Army and the public's view of Government acquisition [Ref. 8].

This process continued through the World Wars, when fortunes could be made and lost on Government buys. These significant purchases began to attract the attention of lawmakers who felt that the military industrial complex may have been receiving tremendous benefits while the soldiers may have been receiving lower quality or overpriced goods and services [Ref. 9].

To prevent these occurrences and to reassure the public that the Government was utilizing taxpayer money correctly, statutes were passed and regulations promulgated and implemented. These include laws such as the Truth in Negotiations Act of 1962 and the Competition in Contracting Act of 1984. The Truth in Negotiations Act is designed to level the playing field between contractor and customer teams negotiating contracts and to ensure the integrity and validity of proposed costs [Ref. 10]. The Competition in Contracting Act is designed to increase the number of Government procurements conducted under the principles of full and fair competition, as opposed to contracts that are

issued under noncompetitive arrangements such as "sole source" or "set-aside" awards [Ref. 11].

The Federal Government also learned that certain policy objectives could be addressed by utilizing its large and growing purchasing power. Subsequently, clean air and water, small business, and anti-discrimination considerations were all made party to Government contracting. Businesses had to comply with these rules or not obtain Government contracts. For every issue there was a clause.

To accomplish his mission, the contracting professional had to become an interpreter of the growing number of statutes, regulations, clauses and policies. Over time, the process became unwieldy, as detailed Government specifications were written to cover everything from tanks to oatmeal cookies with chocolate chips [Ref. 12]. These exhaustive prescriptions were intended to increase quality, but also increased the cost of almost every good and service acquired. Rather than worry about the baking industry and ways to leverage industry trends, the contracting professional was making sure that each cookie contained the requisite number of chocolate chips [Ref. 12].

Recently the pendulum has begun to swing the other way. The Government is working to change the way it acquires goods and services [Ref. 13]. Detailed specifications are discouraged, commercial practices are favored over Government controlled processes, and commercial solutions are preferred over the development of new items from scratch [Ref. 14]. The result should be

higher quality, better prices and a successful partnership between industry and Government.

As the statutes, regulations and guidance are relaxed and the detailed, black and white control removed, the contract professional finds him/herself in a new environment. The need for a broader grasp of business practices must supplant the regulation driven type of thinking. Commercial equipment and services are now essential, as are partnerships with industry and an understanding of that industry. Attention is now being focused on the re-education of the contracting professional to better prepare him for this new environment.

Over time, the United States Government, and the United States Army may expand or contract while technology advances and threats change. However, the need to provide material, supplies, and services will remain a major obligation of the Federal Government function.

C. CURRENT SCOPE OF GOVERNMENT CONTRACTING PROFESSIONAL'S WORK

According to the Office of Personnel Management, the current type of work covered by the 1102 series (Contracting) includes the following job characteristics: (1) soliciting, evaluating, negotiating, and awarding contracts with commercial organizations, educational institutes, nonprofit organizations, and state, local or foreign governments for furnishing products, services, construction or research and development to the Federal Government; (2) administering contracts by assuring compliance with the terms and conditions of contracts, including resolution of problems concerning the obligation of parties; (3) terminating contracts by analyzing,

negotiating, and settling claims and proposals; (4) analyzing and evaluating cost or price proposals and accounting systems data; (5) planning, establishing or reviewing contracts, programs, policies and procedures; (6) formulating and administering policies and procedures to insure achievement of Federal socioeconomic goals, such as those affecting small business, large surplus areas, and disadvantaged business firms; (7) developing acquisition strategies and directing or managing procurements; (8) providing staff advisory services in one or more of the specializations in this occupation. [Ref. 4] The application of some specific types of information, e.g., accounting expertise, knowledge of business practices for certain utility resources and services, and the practical knowledge of the nature of an industry or industries, fell under the purview of other job series classifications. [Ref. 4]

The guidelines provided by the Office of Personnel Management in the evaluation of knowledge factors to successfully function in the contracting series have always emphasized areas that relate directly to the actual process of contracting. [Ref. 4] Skills such as drawing conclusions by analyzing facts and conditions, familiarity with and application of regulations and technical material are key. The ability to translate guidance into contracts and supporting documentation, as well as the interpretation of same is still the primary function of the contracting professional.

As the level of the contracting professional's responsibility increases, so does the expected need for specific contractual expertise. In the recent past the

contracting professional spent his time acquiring and applying such knowledge as the type of contract to use, the type of clauses to include, how to purchase specific goods or services, how to incorporate the proper clauses and how to "stay within the lines" prescribed by the multitude of statutes, regulations and other guidance. Success for that contracting professional was determined by the mastery of procurement principles and contracting techniques rather than his overall business acumen.

The Office of Personnel Management also addresses business practices within the contracting series guidelines. A review of these practices reveals an emphasis on learning and utilizing only those business practices that directly relate to the specific acquisition or situation being addressed, not an understanding of business practice as a whole. [Ref. 4]

This narrow view of the relevance of general business practice for contracting professionals is explained in part by the role of the requirements office. The requirements office is responsible for the development and support of the planned acquisition. They conduct market surveys, communicate with various industry representatives, and prepare the documentation required for successful approvals from higher level. The efforts of the requirements office at the early stages of an acquisition require a greater degree of business knowledge based in part on industry interaction, the technical aspects of a job and coordination of the documentation [Ref. 15].

Until recently, the contracting professional's participation began with receipt of a complete technical requirement package from the requiring activity. The

contracting professional took a minimal role in the early stages of an acquisition, similar to those undertaken by technical personnel. The contracting professional could be successful in his job without early involvement in the acquisition and without a broad understanding of business practices.

Although change has been introduced into the acquisition system, a review of contemporary contracting practices demonstrates the continuing emphasis placed upon technical, regulation driven thinking versus the application of business practice knowledge.

For example, the technical requirements office generates the requirement and all necessary documentation. They develop a statement of work, acquisition strategy and delivery plan, as well as attend to the funding issues. This information is then passed to the contracting professional for review. [Ref. 15]

The review, in many cases, consists only of making sure the required paperwork is in place and correctly formatted and signed. Then a contract is developed. The primary concern is to make certain that the correct clauses, as defined by existing statutes and regulations, are included within the solicitation. The contracting professional then ensures that the solicitation is sent to other offices such as Legal and Small Business for review and waits for their comments. Comments are then incorporated, usually in the way of additional clauses and provisions. [Ref. 15]

The solicitation is then issued. Depending on the type of acquisition, e.g., simplified purchase, sealed bid

or negotiation, the appropriate amount of effort is expended after receipt of the proposal, and an award is made. In many cases, the next step is a post award conference, at which time the Government and contractor review the award to insure that everyone has interpreted the requirement and its attendant clauses and provisions in the same way. [Ref. 16: Part 42]

D. THE NEED FOR CHANGE

According to one noted authority, the acquisition workforce needs change. Specifically, he believes they need to become more multi-functional, multi-skilled and more highly educated. His sentiments were included in a report prepared for the Under Secretary of Defense, Acquisition, Technology and Logistics (USD(AT&L)) and the Under Secretary of Defense, Personnel and Readiness, and are reflected here,

> During this era of change, the Department of Defense has experienced a profound shift in what is expected of the Acquisition Workforce. Outsourcing, base closures, and technological innovations have created a need for a more multifunctional, multi-skilled staff with advanced education and broad acquisition experience. This critical need will be exacerbated by the exodus of the baby-boomer generation, a smaller candidate pool, and fierce competition with private industry to hire the same people. Unless immediately addressed, this situation will leave many acquisition organizations without the talent, leadership, and diversity needed to succeed in the new century. [Ref. 17]

To address these new requirements, contracting personnel must continue to grow into more business-like professionals. Professional development has become a matter of revolution, not evolution. Reading and

interpreting regulations is no longer sufficient, nor is change an option for the contracting professional or, for that matter, for the organization for which he works. Not only must the contracting professional evolve to meet the demands of his profession, but the organization must evolve as well so that it can best utilize the new contracting professional.

The acquisition environment of the 21st century is characterized by risk management versus risk avoidance, increased emphasis on the adoption of commercial practices and the requisite commercial pricing techniques, cross-functional teaming arrangements, acquisition reform, new qualification standards for the 1102 series (Contracting), and a Department of Defense emphasis on reducing the amount of contractor oversight. Each of these elements is driving the need for change in the way in which the contracting professional conducts business. [Ref. 1]

Another major force driving the need for changing the way the contracting professional conducts business is the demographics of the Department of Defense workforce. This one aspect is extremely critical and is addressed in the next section.

E. DEMOGRAPHICS OF DEPARTMENT OF DEFENSE WORKFORCE

As stated above, one of the most dramatic forces driving the change in the contracting profession is the changing demographics of the civilian workforce. Eleven consecutive years of downsizing, base realignments and closures, budget reductions and an aging workforce have significantly changed the overall Department of Defense civilian workforce. Between 1989 and 2000, the Department of Defense reduced its civilian workforce by more than

417,000 positions, from 1,117,000 in the late 1980's to the estimated 700,000 of today. This represents a 37 percent reduction in the total workforce. [Ref. 17] Figure 1 demonstrates this reduction.

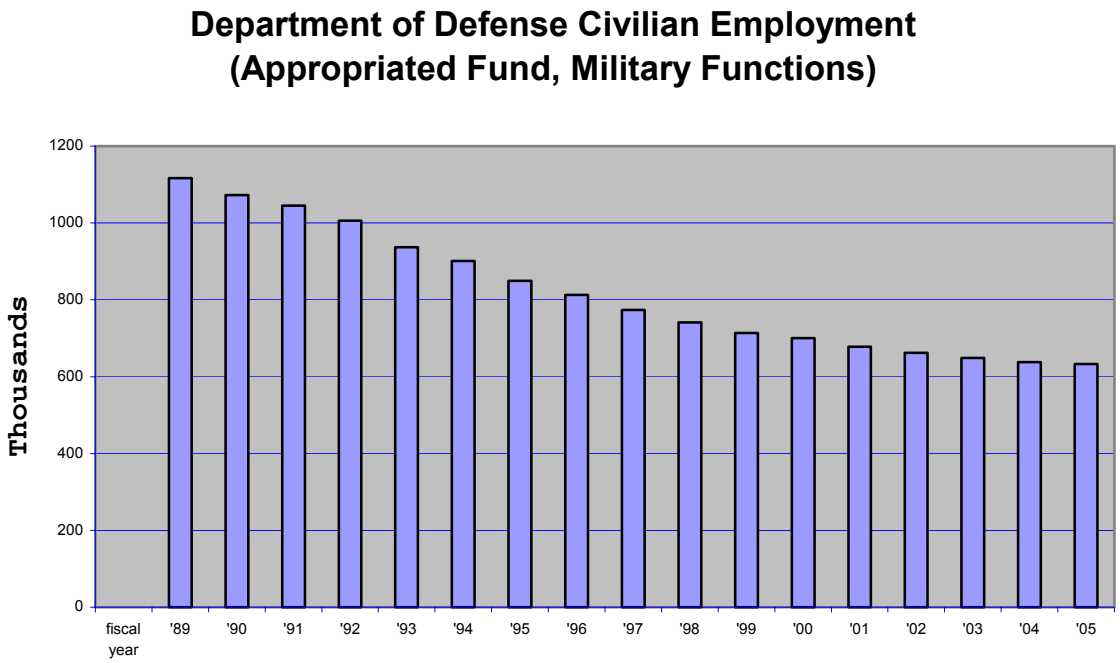

Figure 1. Reduction in Civilian Workforce.

However, the civilian acquisition workforce reductions far exceeded that of the rest of the Department of Defense workforce. In the 11 years noted above, the civilian acquisition workforce has drawn down by 47 percent, a significantly greater reduction than the cuts in both the overall Department of Defense civilian workforce (37 percent) and the total Federal civilian workforce. [Ref. 17]

Furthermore, by the end of 2004, the average civilian Department of Defense acquisition workforce member will be 47.4 years old, with 18 percent of the workforce eligible

for retirement. As a result of separations and retirements, between 1999 and 2005, the job series constituting the primary contribution to the acquisition process is projected to experience losses ranging anywhere from 35 to 50 percent [Ref. 17].

Exacerbating this retirement problem is the fact that the Department of Defense is hiring fewer younger people to replace these exiting ones. Figure 2 below shows that since 1989, there has been an 11 percent drop in share of new hires under age 31. [Ref. 18]

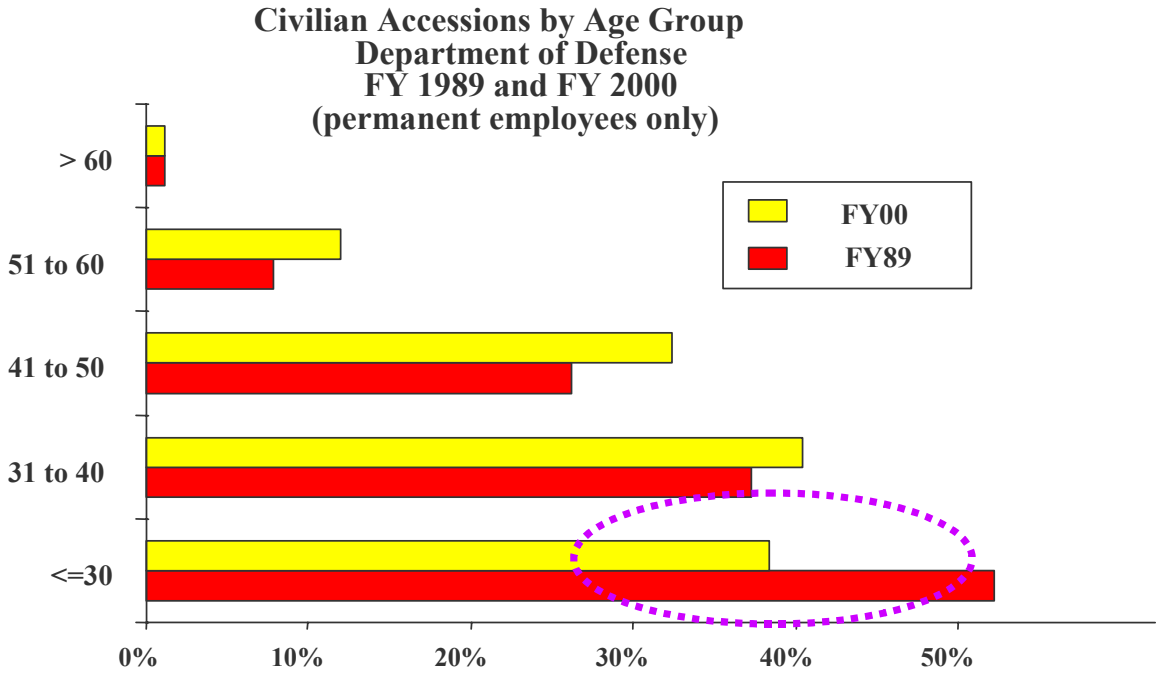

Figure 2. Percent of Annual Accessions.

F. DEMOGRAPHICS OF THE CECOM ACQUISITION CENTER

The same demographics that are impacting the Department of Defense as a whole are also affecting Communications Electronics Command (CECOM) Acquisition Center workforce. For example, from 1990 to the present, the Acquisition Center has experienced an increase in the number of contract actions of almost 90 percent in terms of

the amount of completed actions on an annual basis. However, during that same time, employee count decreased by 57 percent, from 1180 to the current level of 503. This is seen in detail in Figure 3 below. [Ref. 19]

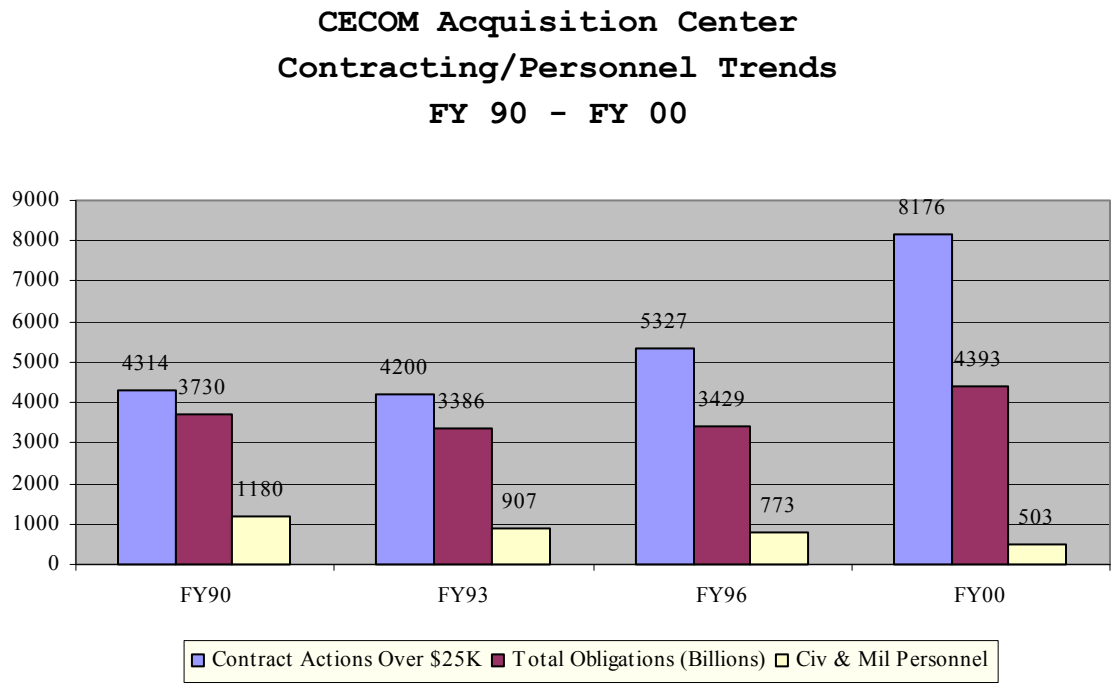

Figure 3. Contracting and Personnel Trends.

In terms of retirement eligible employees, the Communications Electronics Command Acquisition Center as an organization could potentially lose 90 percent of its workforce in the near future. The years in service chart, Figure 4, shows that the Acquisition Center could lose a huge percentage of its employees to retirement [Ref. 19].

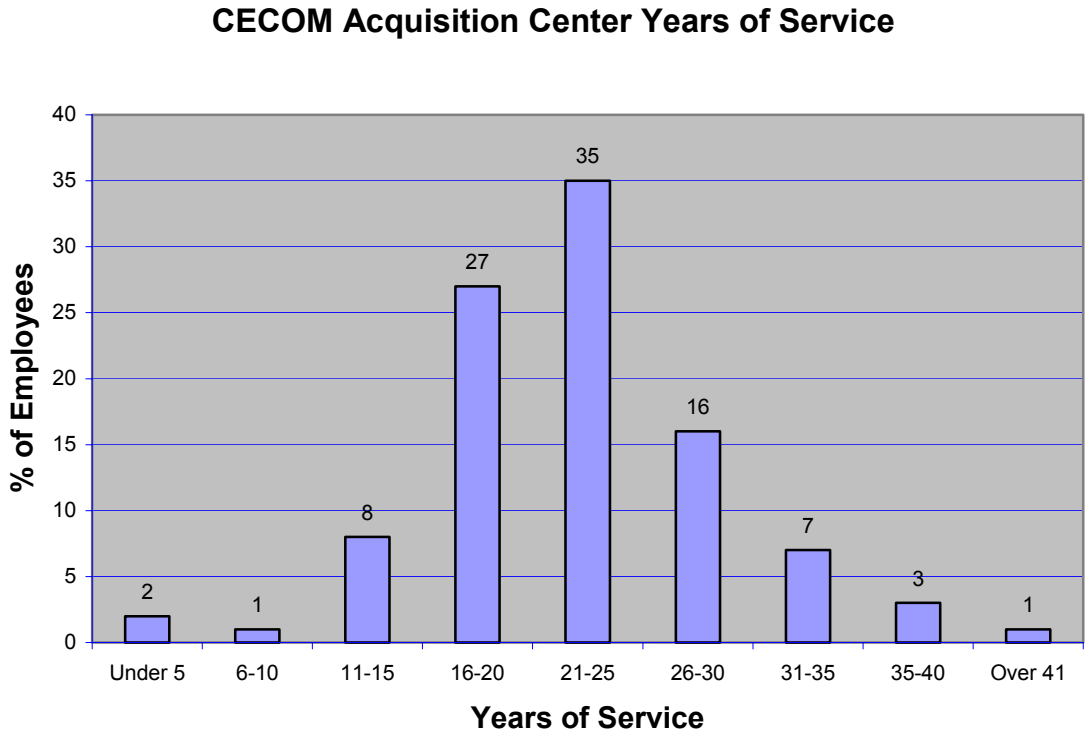

Figure 4. Years of Service.

Figure 5 demonstrates two important related statistics. First, the largest single cohort of employees is over 55 years of age, and 70 percent of all employees is 46 years of age or older. Second, there is a very small number of employees below the age of 40. Just like the Department of Defense Civilian Workforce as a whole, the Communications Electronics Command Acquisition Center faces a shortfall in the numbers of younger employees readily available to step into the positions vacated by retiring personnel [Ref. 19].

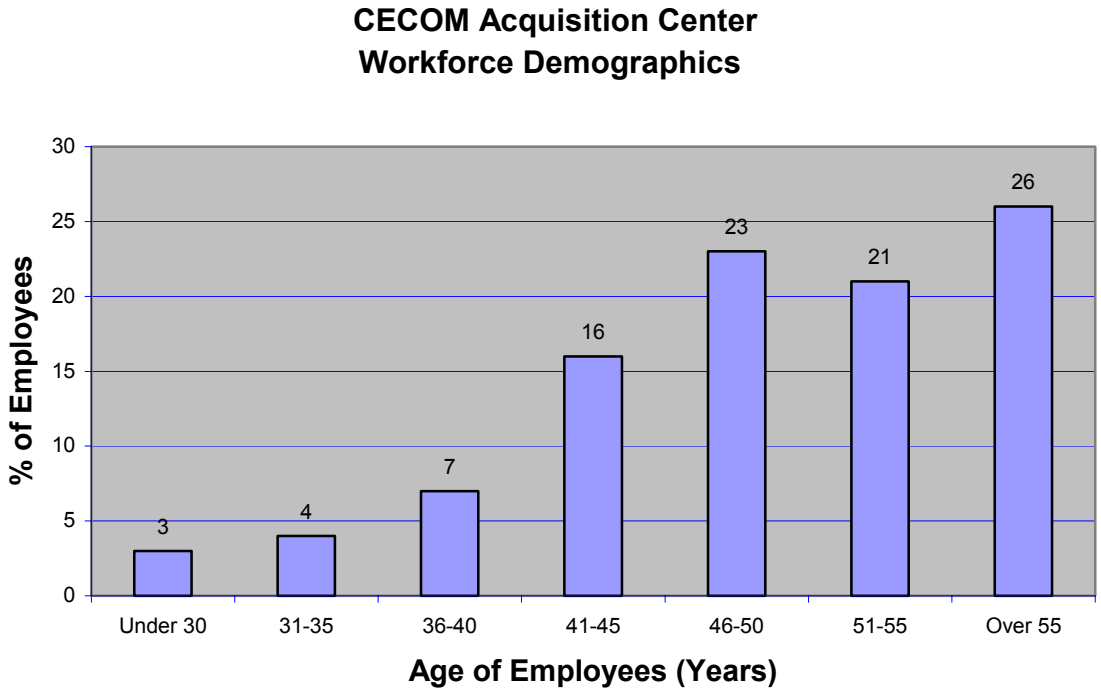

Figure 5. Age of Employees.

So the question remains, how is this situation addressed? A discussion of this issue is provided in the next section.

G. FUTURE SCOPE OF THE CONTRACTING PROFESSIONAL'S WORK

In order to effectively address the changes occurring throughout the contracting professional's work environment as discussed in the previous sections, the role that he plays must be expanded. The contracting professional must do things quicker, faster and with fewer resources. He must involve himself far earlier in the acquisition process. He must acquire a broader knowledge of industry trends and practices. He must take on the role of business manager in the process. For example, this means assuming responsibility for some if not all of the industry

involvement that has previously been handled by the requirements office.

The scope of work that the contracting professional will be required to deal with in the future will be very different from the work performed by employees of the past and present. New skills will be required for the contracting professional to be relevant and add value to any program supported. Furthermore, the depth and number of steps within the acquisition cycle where the contracting professional becomes involved must expand as well. [Ref. 3]

As is evidenced by the information provided in the previous sections, the contracting professional's responsibilities will be required to undergo many major and minor changes. These changes, which are occurring continually, demand a new mental outlook, new spirit of teamwork and the development of new and/or enhanced skills. The scope of work that the contracting professional will be required to deal with in the future is also evolving. It will be substantially different from the type of work effort being performed by employees now and in the past.

One contracting professional interviewed for this paper indicated that the contracting professional is no longer the "next stop" in the acquisition process. He said that in the past we usually waited for the requirements to be provided to us from a customer. We then developed the solicitation, received bids or offers and awarded a contract. In many instances interaction between the contracting group and the customer was minimal and only occurred if there was a problem. A low bid was considered a low bid. Not much thinking was required. Today, however, with fewer resources and an emphasis on

performance based acquisition we get involved during the customer's requirements development. Early involvement is not only necessary for us to understand the customers' needs, it is expected by the customer.

This underlines the change in the mental attitude of present contracting professionals. The contracting professional must not only accept, but embrace his new role. The contracting professional can no longer simply operate at the end of the acquisition cycle by "putting it on contract" as in the past. He must position himself in the acquisition team as a valued member at the front end of the requirement cycle, as well as being the protector of taxpayer funds.

Early involvement also portends the end of the contracting professional as an independent player or loner in the acquisition process. Reduced resources, steady or increasing workload and the need for continual, hands-on assistance is pushing the contracting professional into the role of the consummate team player.

Working early in the process means constant interaction with Government and industry personnel throughout the acquisition process. Meetings, briefings, strategy sessions and the generation of recommendations and advice require that the contracting professional have the tools and social skills to lead and follow as required by each situation that is presented. "Send it to me and I'll tell you what I'm going to do" will be replaced with "We'll get the team together and figure what we need to do, why we need to do it and how we can get it done."

To accomplish these changes new and enhanced skills will be required. For the contracting professional to play a relevant role in the acquisition process and add value to any program supported, he must change and grow. Education, training and skills must emphasize business expertise as well as the current contracting knowledge. The questions asked of the contracting professional today usually encompass business impacts to suggestions and decisions. These questions come from external sources, customers and industry, as well as from internal sources, such as senior management. The contracting professional is now required to develop and/or assist in the development of strategy that demonstrates sound business acumen. Every decision from the simplest to the most complex must take into account the effect on industry and balance the return with the cost of a decision. Customers now approach the contracting professional for sound business/contracting information, and industry expects the contracting professional to have a solid grasp on their world, its problems and concerns.

The contracting professional must evolve to become a socially astute businessman who happens to specialize in contracting. This thesis will address those skills needed by the contracting professional to help him become that astute businessman.

H. CHAPTER SUMMARY

In conclusion, this chapter defined the current work effort performed by the contracting professional as including things such as soliciting, evaluating, negotiating, and awarding contracts. It delineated what is driving the need for a change in the way the contracting

professional conducts business to include risk management versus risk avoidance, the adoption of commercial practices and the changing demographics of the workforce. Finally this chapter explored the duties the contracting professional may be required to perform in the future such as becoming involved far earlier in the acquisition process than in the past and teaming with the requirements office.

These duties will require a variety of skills, some of which the contracting professional may already have and some which he may not. These skills and the means to attaining them will be discussed in the next chapter.

III. CRITICAL SKILLS OF THE BUSINESS MANAGER

A. INTRODUCTION

The purpose of this chapter is to provide a description of the critical skills necessary for the business manager to perform effectively for his/her organization and possible methodologies for acquiring these skills and to provide alternatives on how those skills might be acquired.

B. BACKGROUND

New skills and mindsets need to be developed and nurtured in order for the contracting professional to evolve into a business manager. Compared with today's environment, in the 1980's, Department of Defense funding and personnel were plentiful. During that time, the contracting professional's main job was stereotypically perceived by many to be the relatively rote application and interpretation of volumes of statutes, rules, regulations and policies. The ability to read, retain and interpret volumes of data was a key to success for contracting professionals. [Ref. 20]

Interviews with a number of contracting professionals have revealed that many believed that if the regulations said, "you shall," you did. If the regulation said "you shall not," you did not. Simply put, they indicated the job of the contracting professional was to prepare and interpret contract clauses and regulations to the benefit of the Government, or, at the very least, to make certain that industry did not have the advantage over the Government.

Missing from the repertoire of the successful contracting professional were people skills, a knowledge of business practices, and even those skills assumed to be the major part of the contracting officer's and contract specialist's arsenal, e.g., negotiation skills. The contracting professional had the power to influence contractors; they had regulations and policy to bolster their position, and they had authority to bind the Government. It is possible that the regulation authority and its basis in law gave the contracting professional's all they needed to perform their job effectively.

Obviously this generalizes the position and is not intended to infer that all contracting personnel from the 1980's possessed none of the skills required by today's contracting professional or the contracting professional of the future. Suffice it to say the contracting professional of the 1980's required a limited skill set.

The plentiful funding and personnel of the early 1980's are no longer available in today's contracting environment and do not appear to be forthcoming in the future. Therefore, the old skills such as rule quoting, regulation knowledge and policing of the process need to be replaced with new skills that will help the contracting professional better support the acquisition process as a "business manager." This "business manager" will need to be a strong leader, an extrovert, and be an excellent communicator. Furthermore, he will also have to be analytical and have a burning desire to satisfy the customer. [Ref. 1]

Today's contracting officer/specialist and the contracting officer/specialist of the future require an

expanded set of skills to be successful in the changing field of acquisition. The emphasis today is not only on "the regulations" but innovation or innovative uses of the regulations. It is not only the single contracting professional against the world, but rather, the contracting professional as a facilitator, team leader, and, when appropriate, team member. The research conducted on this topic suggests that the contracting professional must transform into a "business manager."

C. BUSINESS MANAGER DEFINED

A "business manager" can be defined as a person who approaches his job from a strategic perspective. The business manager employs a systems approach throughout the supply chain management function. This individual continually embraces and leverages his skills and knowledge of critical supply chain activities to provide value in meeting mission accomplishment and product or service fulfillment. [Refs. 5 and 6] Allan Burman argues that, "Today's challenge is to ensure that the workforce possesses the knowledge, skills and enthusiasm" to effectively deal with the ever changing environment throughout the Government. [Ref. 2]

The ability to understand business practices and management techniques are the skills required of the modern contracting professional. These skills replace the black and white perspective of "us against them." The ability to deal with shrinking resources such as personnel, while workload increases, means greater emphasis on communication skills, more involvement in the early stages of the acquisition process and an ability to "manage" not just "police." A contracting professional who can provide a

more efficient process or understand the nuances of a new business technique will be successful in the 21st century acquisition career field.

The future contracting professionals will need to possess the correct skill sets in order to assume responsibility for purchasing and negotiating materials, equipment, and supplies from a variety of world-wide diversified vendors. They must have a thorough understanding of the supply chain management function and inventory control systems. The ability to apply sound business judgment in compliance with applicable regulations is critical to the future success of Government acquisition.

Due to continued downsizing and contracting out, the future contracting professional must have the ability to analyze market conditions and develop procurement strategies that reduce cost and improve the quality of incoming goods. Given a myriad of competing and conflicting goals while evaluating vendor quotes for goods and services, they must also be able to determine the most desirable suppliers.

Contemporary contracting professionals must not only acquire these new skills and abilities, they must also become adept at sharing their knowledge within their community. The future contracting professional needs to share their knowledge within their community. Sharing will shorten the time needed by new employees to learn new skills. It also allows contracting personnel to collaborate and provide innovative and better solutions.

Even entry-level contracting business managers must have familiarity with a variety of procurement concepts, practices and procedures. Each entry-level business manager will have to rely on personal experience and judgment to plan and accomplish organizational and customer goals. The future business manager will need to perform a variety of complicated tasks within an environment where a wide degree of creativity and latitude is necessary and expected.

Research for this thesis has suggested knowledge and skills that will allow the future contracting professional to perform the above outlined tasks. This thesis divides those skills into three categories: (1) general business skills, (2) core acquisition skills, and (3) advanced acquisition skills. These skills are discussed in the next section.

D. GENERAL BUSINESS SKILLS

General business skills are the generic skills needed by individuals in order to be members of a flexible, adaptable, and competitive workforce. Without these generic business skills, members are virtually unqualified to function successfully in any business environment. Furthermore, these skills are necessary to promote life-long learning, as they form the basic building blocks for all other specialized business skills.

These skills are communication skills, interpersonal skills, professional presence, information technology skills and computer competency, analytical/problem solving skills and financial analysis, consisting of accounting, economics and finance. Each of these skills will be discussed here. [Refs. 1, 5, 21]

1. Communication Skills

Communication is one of the strongest needs we have. That is to make ourselves understood and to understand others and to listen and to be listened to. The contracting professional must realize that communication involves the sender, the message and the receiver. Therefore, he must be able to speak or write his message in terms that the receiver will understand. Without understanding, there is no real communication. This skill is extremely important during negotiations or in source selection situations that oral presentations are used.

2. Interpersonal Skills

Interpersonal skills involve the ability of the contracting professional to effectively interact with a variety of people. This skill is increasingly important as the contracting professional will be required to work in a variety of teaming situations, e.g., Integrated Product Teams, teams of contracting specialists and contracting officers and cross-functional teams (people from different functional areas working together to meet a common goal).

3. Professional Presence

Although some may not consider this a skill, according to a survey conducted by Down & Liedtka [Ref. 21], professional presence was revealed to be one of the seven most critical skills that employment recruiters look for in a purchasing professional. Professional presence is simply the way the individual carries himself, e.g., with or without confidence, dressed appropriately.

4. Information Technology and Computer Competency

The ability to utilize information technology and computers in performance of one's job is very important for the contracting professional. Knowledge of word processing

on a personal computer, the ability to create spreadsheets, and the ability to make use of the Internet as a valuable tool are just a few examples of what will continue to be necessary skills.

5. Problem Solving Skills

The contracting professional must be able to solve problems. This is a skill that is of utmost use in today's every changing environment. The contracting professional must be able to understand a situation, be able to analyze it from a variety of viewpoints and then provide the best solution given the available information. This skill is important to all levels of contracting professionals be they contract specialists or the directors of procurement agencies.

6. Financial Analysis

Research suggests the contracting professional should be able to understand, interpret, and analyze financial data if he wants to be successful in any business arena as well as the Government acquisition arena. Financial analysis could include evaluating accounting and economic information, a company's financial status/viability and in the Government procurement arena, evaluating an offeror's cost proposal.

Other organizations also target this set of skills and suggest other necessary general business capabilities. For example, the National Association of Purchasing Management's Center for Advanced Purchasing Studies at Lehigh University conducted a survey of 700 chief purchasing officers of large U.S. firms. The following skills for purchasing professionals were deemed "must haves": interpersonal communication, customer focus,

decision-making ability, analytical and negotiation skills, conflict resolution skills, flexibility, problem-solving skills and the ability to influence and persuade. [Ref. 21]

E. CORE ACQUISITION SKILLS

In order to exercise good business judgment within the acquisition field, members require several additional core acquisition skills. As a profession, the Government acquisition field contains a unique body of knowledge which should be mastered. It should be noted that without the necessary general business skills, the core acquisition skills could not be developed, let alone utilized in the performance of one's duties.

Core acquisition skills give an individual the ability to perform their day-to-day tasks in the acquisition field in order to conduct Department of Defense business in the manner that is critical to achieving best value acquisition while simultaneously serving all stakeholders. Core acquisition skills also serve as basic building blocks to obtaining advanced and specialized acquisition skills. Presented below are core acquisition skills and knowledge requirements that research on the topic has suggested are necessary for the contracting professional to transition to the business manager. [Refs. 1, 5, 21]

1. Knowledge of Department of Defense Acquisition Process

The contracting professional must have a thorough knowledge of the technical aspects of Government acquisition or the ability to have that knowledge at his fingertips, e.g., the Federal Acquisition Regulation to consult. He should be able to perform his duties without much supervision. He should know what happens step by step

through the acquisition process. This is simply a grounded knowledge of his job.

2. Knowledge of Surrounding Environment

The contracting professional should have at least an understanding of the legal, regulatory, and political framework in which Government business is conducted and the ability to apply that knowledge.

3. Supply Chain Management

Supply chain management is a systems management concept designed to optimize the factors of material costs, quality and service. It is accomplished by consolidating the purchasing, transportation, warehousing, quality assurance for incoming materials, inventory management, and internal distribution of materials.

4. Commercial Business Practices

Research suggests that the contracting professional of the future should have a basic understanding of the commercial business environment of the particular product or service that he is procuring. Government acquisition reform pushes the use of commercial products, techniques and operating environments. The Government contracting professional of the past did not necessarily need to know the workings of commercial business. Today and in the future, this will be a critical skill of the contracting professional.

5. Market Research

The contracting professional should have the ability to conduct research on a particular product or service to determine the status of the market for that item. Market research affords the contracting professional the information to strategize for sourcing suppliers.

6. Decision Making

Decision making can be defined as the ability and skill that involves the assimilation of situational information and decision alternatives in the pursuit of making a choice from the alternatives. This is an important skill for the contracting professional of the future in an environment where he is given greater latitude in what he can and can not do in the performance of his duties.

7. Customer Focused

Being customer focused is having a burning desire to meet the needs of the customer whenever possible. For the Government contracting professional, that end customer is the war-fighter. Research suggests that understanding the importance of meeting his needs will be a necessary core acquisition skill.

8. Skill at Working in Cross-Functional Teams

The contracting professional of the future must be a willing and integral part of cross-functional teams. This requires that they have a basic knowledge of the various departments and functions of the other team members and be able to use the outputs of the team to provide the best product or service to the user. As part of this team, basic knowledge of supply chain management as discussed earlier will be required.

9. Negotiation Skills

The ability to negotiate win/win outcomes that balance the interests of all stakeholders is a key core acquisition skill for the contracting professional of the future. The ability to balance the stake-holders interests through negotiation will be very important.

10. Risk Management

Research has shown that prior to Federal Acquisition Reform Act and Federal Acquisition Streamlining Act, contracting professionals were taught to avoid risk if at all possible. The future contracting professional needs a comprehensive understanding of risk management and analysis as a core acquisition skill. That individual will need to understand that risk is a part of every acquisition. He will have to know how much risk he is willing to accept as well as how much the contractor will be able and willing to accept. Managing the risk is the key, not avoiding it altogether.

F. ADVANCED ACQUISITION SKILLS

Finally, research has shown there is a need for in-depth, specialized acquisition skills. These skills are utilized in the most complex functions of the acquisition profession. These highly complex and dedicated skills are focused on customer relationship management, strategic management, and knowledge management. They are based on the premise that contracting professionals must assume the end-to-end responsibility for a given project as well as the relationships within it. Research has shown that those assuming this role must have the ability and desire to manage the purchasing and supply chains from end to end and to recognize and manage the interests of all stakeholders. [Refs. 1, 5, 21]

The key specialized acquisition skills and knowledge areas gathered from the research are listed below.

1. In-depth Supply Chain Understanding

This skill builds on the core skill of basic supply chain management. The difference here is that the

contracting professional now knows how to use the supply chain management to effectively deal with the industry of the particular product or service being procured.

2. Change Management

In the ever changing contracting environment, the contracting professional will need the ability to deal with changes that happen in the course of executing his mission. A junior contracting professional may not be able to quickly adapt and make the necessary adjustments, but the experienced contracting professional will.

3. Analytical Thinking

Thinking analytically in the contracting professional's case involves the ability to apply ideas and theories relative to contracting such as business case decisions and risk analysis. Analyzing information to answer difficult questions or address different situations is an important skill for the contracting professional of the future.

4. Project Management

Understanding of how the requirements office and project management is conducted will help the contracting professional better meet the customer's needs as well as giving them the ability to provide value added input to that office regarding the management of the particular program.

5. Financial/Budget Knowledge

An understanding of the rules and regulations that govern resource allocation and funding commitments is an advanced skill of the contracting professional in the Department of Defense.

6. Leadership

The ability to lead a team or direct a group of acquisition professionals will be of major importance to the contracting professional of the future.

To conclude this section, one noted contracting professional, Mr. Professor Ralph Nash, George Washington University, the contracting professional must acquire the ability to function successfully as a team member and this ability complements, rather than detracts from their independence. [Ref. 23] Furthermore, additional attention needs to be placed on skills associated with team building and interaction, balancing stakeholder interests, strategic planning in contract management, business planning and partnering principles. To become business managers, acquisition professionals must add each of the aforementioned skills to their mental toolbox. [Ref. 1]

It should be noted that the list of skills and knowledge presented above is not meant to be an all inclusive list of the skills that the Government contracting professional of the future will need. It serves as a representative sample of the critical skills that research has shown to be necessary for the contracting professional to become a business manager in the future.

G. ACQUIRING THE NECESSARY SKILLS

To reach the proposed goal of a business-oriented contracting professional, the Department of Defense has several alternatives. It could continue some existing practices. It could add or change some new practices and finally, it could eliminate some existing processes. Education and training requirements could be enhanced to

include even more business-oriented instruction versus the old regulation type of instruction. These courses would reflect progressively more complex instruction from the general business instruction to more difficult decision making, to successful risk taking strategies.

Several contracting professionals interviewed while conducting this research indicated that a substantial amount of the education and training conducted today is still based on teaching the contracting professional "the rules" of what to do and what not to do. It is obvious that more classes and on-the-job training that directly speak to those skills contained in the previous section should be made readily available to contracting personnel.

The categories of skills and knowledge abilities discussed in the previous section indicate three distinct phases through which an individual must pass in order to become an acquisition professional, attaining general business skills, attaining core acquisition skills and finally attaining specialized acquisition skills.

Research has shown that individuals should, through college education and prior work experience, have acquired the necessary category one skills, i.e., general business. [Ref. 5] One alternative for the Government as a hiring agency is that it not hire candidates who do not have general business skills.

The following methods could be utilized in order to determine if the general prerequisite business skills are met. Verification of the candidate's undergraduate degree could be obtained. This degree could be from an accredited institution in a business-related field or from another

field but with a minor in a business-related field. An exam covering the basic business skills could be given to all prospective candidates. Another mechanism to identify worthy candidates could be to have a job interview by a three to five person panel composed of experienced contracting professionals. If the candidate does not meet any of the criteria the hiring activity deemed necessary, an alternative for the Department of Defense is that it could exercise its right to not hire that candidate.

Once an employee is hired, phase two begins with the rapid development of core acquisition skills essential for the new employee to become a productive member of the organization. An integrated corporate training program could achieve this rapid acquisition of core skills.

The program could consist of accelerated master's level courses leading to a Master's of Science in Contract Management or even a Master's of Business Administration. On-the-job training could be linked with the academic course of study whenever possible so that when a subject is taught in the classroom the student also works in that same capacity in his work environment. After the completion of the Master's Degree and the integrated on-the-job experience, the employee could be required to pass a national procurement certification exam before achieving career status, e.g., three years. Certifications from the National Contract Management Association (NCMA) and/or the National Association of Purchasing Management (NAPM) and other equivalents, as determined by higher authority, could be required.

The completion of graduate coursework designed to provide the contracting professional with business

management, leadership, financial management and communications skills could be included in the contracting professional's standards. The advanced acquisition skills and knowledge abilities need time to be nurtured and developed. Rotational assignments, along with specific area course training and education could achieve this third phase of career development. The emphasis would shift from the application of business skills to the management of them.

The tactics of the acquisition profession are handled by category one and two skills; however, the strategic decisions utilize all category one and two skills as well as category three skills. In order for acquisition professionals to make informed decisions they need reliable, timely, and accurate data. One way to accomplish this is through properly understanding and employing knowledge management. Then an acquisition manager may be able to sort through a myriad of information to identify and organize the relevant facts.

Phase three skills can be developed by cross certification in related business fields such as program management, logistics, and budgeting. The cross certification could be done through both formal training courses and horizontal transfers and job rotation plans. This approach can ensure the continued development of both technical and managerial skills among top employees.

However, there may be barriers to obtaining these skills and some of them will be identified in the following section.

H. BARRIERS TO OBTAINING NECESSARY SKILLS

Research through informal surveys of various contracting professionals has suggested some possible barriers in implementing the three phases of skill development. These barriers are lack of funding, cultural resistance to change, lack of top level Government support, e.g., Congress, Executive Branch, current Office of Personnel Management (OPM) hiring and termination regulations, an inflexible pay grade system tied to time in service rather than performance, possible union resistance to new job descriptions and, inability of legacy database systems to transition to management systems at the same pace as personnel development.

These barriers will need to be mitigated by proper planning. The integration of these future skills sets needs to be accomplished with less funding than currently used. Starting in 2005, a large portion of the workforce is eligible to retire and this is expected to drive the need for change in the way the contracting professional conduct business. [Ref. 17] The current Office of Personnel Management's hiring regulations and pay scale need to be addressed by higher authority. Teaming arrangements with union representatives could be developed to promote partnering between management and organized labor to jointly develop future skill sets and training. Finally, the transition of legacy systems to knowledge management systems needs to be synchronized and systemically developed along with the future workforce.

I. CHAPTER SUMMARY

In concluding this section, it has become increasingly apparent that the current skills of the contracting

professional may need to be expanded so that he can effectively deal with changes occurring throughout the Department of Defense's acquisition arena.

This chapter has provided a representative sample of skills that this researcher has found will assist the contracting professional to better support his customer. General business skills such as communication and interpersonal skills, core acquisition skills such as risk management and negotiation skills, and specialized acquisition skills and knowledge such as in-depth knowledge of the supply chain management are just a few of the skills highlighted in this section.

This chapter also offered alternatives on how the Department of Defense might go about equipping the contracting professionals of the future with these skills as well as barriers to those alternatives.

The next chapter will concentrate on the new and/or innovative business techniques that the contracting professional may be using in conjunction with the skills identified here.

IV. INNOVATIVE CONTRACTING METHODS

A. INTRODUCTION

The purpose of this chapter is to provide a description of a few new and/or innovative contracting methods that the contracting manager may use to apply sound business practices in Department of Defense contracting in order to mitigate the affects of the changing contracting environment and better support his customer.

B. BACKGROUND

As a result of reduced resources, budget constraints and the current push towards acquisition reform, and the continuing reduction in available personnel, the Government has attempted to develop new ways of conducting business. Various innovative approaches have been developed to accomplish the mission more quickly, more efficiently and less costly. Although there are many such initiatives that could have been chosen, this researcher selected five techniques to examine.

Electronic commerce is the first contracting method that the researcher will review. Secondly, a review of reverse auctioning follows, as it is a substantial portion of electronic commerce and as such warrants more in depth review. Performance-based acquisition is described next, followed by price-based acquisition. The chapter concludes with a review of award-term contracting. Several acquisition personnel have described these methods to be innovative and can save both time and resources in the acquisition process. Using these techniques may help the business manager do more with less. Just as in private industry, the business manager must constantly strive to

conduct business more efficiently. The sound business practice of saving time and resources is key to the business manager's success and the programs he supports.

C. ELECTRONIC-COMMERCE

An important and growing means to aid the procurement professional is the use of electronic-commerce. Electronic commerce is the utilization of technology, in the form of computer hardware and software, its associated systems and any other technology that allows for the electronic collection, management, storage, distribution and utilization of data. Electronic commerce, if done properly, can save money and time. This could then possibly translate into labor savings from the standpoint of better utilizing fewer personnel to accomplish greater production. In other words "do more with less." Utilizing the Internet alone can provide for endless possibilities in streamlining the acquisition process.

In the Defense Reform Initiative Report of November 1997, the Secretary of Defense introduced and acknowledged the importance of Electronic Business. The report stated, "a full commitment to electronic business operations will not only result in tangible savings, but will also change the Department of Defense's business culture forcing managers to think differently and act more efficiently." [Ref. 24] The Federal Government entered the world of electronic commerce in June 1998 and has continued to move forward with electronic commerce initiatives to aid all Government personnel, but especially those involved in acquisition.

The Joint Electronic Commerce Program Office was established in 1998 to officially promote the use of e-

commerce in the Military Services and Defense agencies. [Ref. 25] Now known as the Defense Electronic Business Program Office their role continues to be a full coordination of business cycle requirements; accelerate coordination of cross-functional integration; identify best business practices and provide functional industry out reach. From the tools side they work to develop technical architectures, standards and systems engineering. The goal is to integrate electronic business tools into business and management practices. [Ref. 24]

Legislative requirements advancing the use of electronic commerce were laid out in the Federal Acquisition Streamlining Act of 1994 and the National Defense Authorization Act for Fiscal Year 1998. The belief was that electronic commerce as well as other Internet-based systems provided the path to a paperless contracting environment and would improve the efficiency of Department of Defenses' business operations. [Ref. 24]

The days of generating a mound of paper for each Government purchase and the associated costs and labor, must end. With staff sizes decreasing and accountability requirements increasing, every Federal agency should make using the Internet and electronic-commerce tools part of its procurement strategy. [Ref. 25]

The Department of Defense, and in fact the Government as a whole, has instituted a number of programs and processes that save the contracting professional time and reduce the cost associated with the acquisition process. A few of these electronic processes are paperless contracting, electronic signature, and use of the Government credit card.

1. Paperless Contracting

The requirements development and review process can now take place in an electronic environment. E-mail and Internet websites can now be the dominant workspace for the procurement professional. Today websites provide the contracting professional the ability to solicit and award on an Internet site as is evidenced by the Interactive Interagency Business Opportunities Page. [Ref. 27] The utilization of paperless contracting allows for greater productivity based upon the timesaving that can accrue to the procurement professional. Quicker reviews, days saved in mailing, reduced travel and associated costs can add up to a more efficient contracting process with fewer personnel. [Ref. 27]

2. Electronic Signature

The concept of a secure signature to authorize and bind parties is an important step for the Government and especially the Department of Defense. While current usage has been for internal actions, such as policy and memorandum, the Department of Defense is moving toward utilization on industry correspondence and contracting documentation. The electronic signature should remove another major time waster in the acquisition process. The time spent waiting on hard copy signatures between the Government and commercial entities, although only a few days here and there, can add to significant cycle time savings. Again, these savings translate into more work accomplished by fewer personnel and freed dollars that can be applied to other issues.

3. Government Credit Card

Authorized contracting professionals can use a Government credit card to purchase items under $2,500.00.

[Ref. 16] The volume of these purchases alone frees up valuable time for the procurement professional to devote effort to the high dollar, complex purchases versus the daily subsistence buys. Transaction costs for skilled professionals can be reduced accordingly and cycle time can also be reduced.

Furthermore, the Government credit card can be utilized to pay invoices submitted by contractors. [Ref. 29] One example of how this particular electronic method is working is seen at the Base Operations Support Branch of the U.S. Army Communications Electronics Command. The purchasers inform the contractors that their contract will be issued, administered and finally paid by a single individual utilizing a credit card. The contractor is happy in that he has less Government personnel to interact/coordinate with and the Government has saved numerous personnel hours by consolidating the cradle to grave contracting effort of the purchase to a single individual. The Defense Finance and Accounting Service is completely eliminated from the transaction. The time saved in simply getting the contractor paid is enormous. [Ref. 30]

Research on the topic of electronic commerce has suggested that these electronic commerce examples and many other areas of importance such as the collection, manipulation and distribution of information to the customers, both internal and external, demonstrate the importance and significant manpower and cost savings that can be generated by electronic commerce. [Ref. 31]

D. REVERSE AUCTIONING

Reverse auctioning has been around in one shape or another for many years, but only recently has it begun to receive a great deal of attention. In fact, it was considered a "new" method only a year or so ago. [Ref. 32]

Reverse auctioning is the opposite of a traditional auction. Prices are bid down rather than up. An organization selects the item it wishes to purchase and notifies a number of interested sellers. These sellers then bid on-line for the opportunity to provide the item(s) to the organization. The bidding process results in the price of the item being reduced until there is no more action from the competitors. The process is enhanced by the use of internet technology which allows for the real time auction to take place. [Ref. 33]

The reverse auction is designed to bring sellers down to the lowest price the market will allow. Initially, low price was the greatest consideration, but as this technique has expanded, best value has been introduced into the process and procurement offices may now consider the total package, rather than just cost/price. [Ref. 33]

Reverse auctions are becoming an accepted and embraced part of procurement for the Department of Defense. According to Manny DeVera, Deputy Assistant Commissioner for service deployment at the General Services Administration's Federal Technology Service, "I think it's now an accepted procurement tool. People are learning how to apply it." [Ref. 32]

Reverse auctioning can provide a number of advantages to the shrinking Acquisition workforce. Two major advantages are time savings and cost savings.

Greater use of paperless communications via the internet provides a more efficient environment for the reverse acquisition process. The accrued time savings from what would normally be required to conduct traditional low price bidding actions allow individuals to accomplish more purchases. "What is driving (reverse auctions) right now is the time efficiency you get out of using them," says William Brandel, research director for e-business at Aberdeen Group in Boston, noting that online reverse auctions can reduce the process from months to a few days. "Buyers, sourcers, and procurement agents are able to make their requests for services known to a much wider audience by combining reverse auctioning with matching engines and marketplaces." [Ref. 34]

In fact reverse auctioning is a major consideration within the Government acquisition arena. "They save an awful lot of time," says Micheal R. Kelemen, acting director of the U.S. Army's Communications Electronic Command Acquisition Center in Fort Monmouth, N.J. "sometimes time is the most valuable piece of the process." [Ref. 34]

Another major aspect of the reverse auction process is cost savings. Funding that would normally go to personnel to conduct traditional acquisitions can be saved by utilizing fewer personnel to accomplish more. [Ref. 26] These savings also indirectly aid the procurement workforce by allowing the Services to continue to fund training and reform initiatives. Any money saved can be applied to

enhancing the business process within the organization. This is in addition to savings on the items purchased. The nature of the process generates savings that can be utilized to buy additional equipment or, once again, be used for other related purposes.

For example, an agency bought electronic components for the Patriot missile at a savings of more than 30% off the usual purchase price, says the Director, Mr. Edward G. Elgart, Communications Electronics Command Acquisition Center director at Fort Monmouth, N. J. He reports that the Communications Electronics Command has saved between 15 percent and 50 percent off prices on the Federal Supply schedule when using reverse auctions. [Ref. 35]

Other advantages provided by reverse auctioning which effect the workforce in a positive way include but are not limited to: ease of use, force multiplier of human resources and catalyst for increased commercial business practice knowledge.

The reverse auction process is fairly well defined and technology makes it simple to apply. The use of modern technology combined with the accrued time savings can mean an individual can accomplish more work in a given amount of time. The individual can conduct a number of reverse auctions in the time it would take to do one traditional purchase thereby acting as a force multiplier in the smaller workforce scenario. Finally, the real time aspect of reverse auctioning as well as the concept of prices going down versus up require the acquisition professional to develop and maintain an understanding of the business principles that the offerors are utilizing. Knowledge factors include such issues as: What is a low price, can

industry support that price, and are there additional business implications surrounding the price.

E. PERFORMANCE-BASED CONTRACTING

Another potential means of saving human resources and time is the use of performance based contracting. Performance based contracting is a method of acquisition in which all aspects of the acquisition are structured around the purpose of the work to be performed rather than either the manner by which it is to be done or broad and imprecise statements of work. [Ref. 36]

The use of performance-based contracting to the maximum extent practicable was set out by the Office of Federal Procurement Policy via letter No. 91-2 Service Contracting, April 9, 1991. [Ref. 37] In addition, the Office of Federal Procurement Policy put out a guide to performance-based service contracting. A list of performance-based contracting contact people at a number of agencies and sample documents was also compiled by Office of Federal Procurement Policy. [Ref. 38]

Under performance-based contracts the requiring activity does not develop a detailed statement of work and specific process. Instead, they describe to their contractors the end results the Government needs. It is up to the contractor to figure out the best way to meet the Government's needs. [Ref. 36]

In the past, program and procurement personnel meticulously detailed what contractors were to do and how they were to do it. [Ref. 39] In many instances the contractor and Government were required to take on additional efforts to refine contracts. Additional monies were usually required to offset mistakes and/or research

missing information. This additional work would result in extra costs and administrative attention. Such costs were common because writing a perfectly complete description of every aspect of a process or task was nearly impossible. Government and contractor usually worked out the true process and tasks only after the contract was signed and under way.

Performance-based contracts, on the other hand, begin with statements of the results sought or problems to be solved. [Ref. 40] Crafting those statements calls on program and procurement people to more clearly understand agency mission and program goals and to more clearly state these goals upfront. The resulting bid requests call on contractors to use their ingenuity to devise innovative solutions. Results-based contracts for solutions move performance risk off the government and onto the companies. The performance approach enables the government to reduce its use of cost-type contracts in favor of less expensive fixed-price arrangements. [Ref. 40]

Contracts drafted this way contain performance measures agreed upon by both parties. The Government monitors and measures contractor performance through the life of the deal, again placing added responsibility on program people who can best assess the quality of contractors' services. [Ref. 41]

Government and industry agree that this type of process is working and continues to aid in reducing the need for people and extended acquisition time as is evidenced by a new report from Office of Management and Budget of the Office of Federal Procurement Policy. [Ref. 42] In this report, the Director, Franklin Raines calls on

agency officials to convince managers to convert to performance-based service contracting. The Office of Management and Budget reports that the approach cuts contract prices an average of 15 percent and makes agency managers happier with their contractors. In addition, contract audits decrease by 93 percent. [Ref. 42]

Government personnel benefit because they no longer have to micromanage their contractors. Performance-based contracts are typically fixed-price contracts, putting pressure on contractors to complete projects within budget. Other contracts tend to be cost-reimbursement contracts, which means agencies must pay contractors for cost overruns. This requires agencies to closely audit contractors to ensure the Government is treated fairly. [Ref. 42]

Furthermore, as contracting officers gain more experience with performance-based contracts, procurement lead times will shrink, the Office of Management and Budget argues. [Ref. 42] With this reduction in administrative oversight comes savings to the Government. The savings accrue in cost, personnel and time.

F. PRICE-BASED ACQUISITION

In an effort to move towards greater access to commercial technologies, products and processes, as well as to achieve greater efficiencies and effectiveness from our defense suppliers, the Department of Defense has endorsed the use of price-based acquisition as one way to accomplish its contracting needs. [Ref. 43]

Price-based acquisition is essentially making purchases without reliance upon the supplier's cost information. This method of contracting is commonly used

in the private sector. [Ref. 44] Price-based acquisition in its purest form is a way of doing business that begins with identification of a need and flows through the post-award activities. The decision to use a price-based approach is driven by a number of choices made during the requirements definition process and is heavily dependent on risk mitigation, the use of competition, and the chosen acquisition strategy. To work effectively there should be enough competition to allow little or no price information. In its purest form, price-based acquisition results in a firm-fixed-price (or fixed-price with performance incentives) contract. In this type of environment the goal of a fair and reasonable price is meant to be achieved without obtaining supplier cost data. [Ref. 43]

Price-based acquisition can be seen as part of a continuum where "pure" priced-based acquisition is at one end. At the other end is "pure" cost-based acquisition where virtually every aspect of the Department of Defense/supplier relationship demands that the supplier provide the Department of Defense with actual or estimated costs. [Ref. 44]

In the words of one respected acquisition official and the leading voice for the switch to price-based acquisition, Dr. Jacques S. Gansler, during his tenure as the Department of Defense's Under Secretary of Defense, Acquisition, Technology and Logistics, defined price-based acquisition as the "establishment of contractual relationships using price instead of cost. Price may be comparisons to prices of other offers, market prices, or competitive alternatives, and is well established in the commercial world." [Ref. 45] Furthermore, Dr. Gansler felt

that the incorporation of a price-based approach was so important in the acquisition reform process that in 1998 issued a memorandum that established a study group to "analyze implementation of a price-based acquisition system on a Department wide basis." [Ref. 43]

Along those same lines, the Defense Science Board completed a study that concluded "force modernization at low cost and with short cycles -- and with ability to draw on world-class commercial firms -- requires a new weapons R&D [research and development] process." [Ref. 45] One item the study recommended was that the Department of Defense's process should rely on competitive forces and price-based contracting versus regulations and cost-based contracting. In the opinion of the Defense Science Board, adopting such an acquisition process would supply effective hardware in small quantities, producible and supportable at affordable cost, with cycle times reduced by one-half. [Ref. 45]

Research has suggested that a possible intent behind choosing to adopt price-based acquisition is to eliminate, to the greatest extent possible, differences between Government contracting and commercial purchasing. This can allow for a better utilization of the shrinking acquisition workforce. By utilizing commercial practices, such as price-based acquisition, the acquisition professional, after proper training, is not required to ask for, review and evaluate the voluminous amounts of pricing information once required by the Government. This movement toward commercial pricing and acquisition techniques follows along the already reduced requirements for certified cost and

pricing data required in the Federal Acquisition Regulation and its many supplements. [Ref. 45]

Expected benefits of price-based acquisition include reduced prices for military products (by enabling companies to integrate their military and commercial production lines) and greater access to commercial products, technologies and services. One of the most important benefits can be the potential savings to the acquisition professional in terms of reduced cycle time for contract definitization, manageable data submissions, accelerated funding commitments, less dependence on certified cost/pricing data, and reduced oversight and administration for the effort.

Research from the studies mentioned herein has suggested there are several ways that price-based acquisition can be incorporated in the Department of Defense's procurements. A selected sampling of these suggestions will be described here.

1. Evolutionary Acquisition

The first suggestion is to consider using an evolutionary and/or incremental development strategy for system development where risk would normally seem to warrant a cost-reimbursable contract. [Ref. 43] In this case, the evolutionary approach is a way to quickly give the user an improved or new capability by fielding it to them in blocks. Technology has a chance to mature towards meeting the full requirement, and the user has a capability quickly that partially meets the requirement. Evolutionary acquisition is a major enabler of price-based acquisition because it reduces the technical risk of a development

program. This in turn makes the choice of price-based acquisition less risky. [Ref. 43]

2. Value-Based Pricing

Another suggestion proposed is using value-based pricing to determine price reasonableness. This is a technique for determining the price reasonableness of a product or service based on the quantifiable benefit or utility that a customer may derive from the consumption of that product. Value-based pricing is completely independent of the supplier's actual cost of producing or providing that product or service. [Ref. 43]

3. Incentive-Term Contracts

Incentive term contracts provide incentive to the contractor in the form of potential for earning additional contract length for good contract performance. [Ref. 43] Should the contractor perform favorably, he earns additional periods of performance instead of earning award fee. There is currently one type of incentive-term incentive being utilized today, award term. This particular incentive term will be discussed in the coming section in further detail.

G. AWARD-TERM CONTRACTING

Generally speaking, it has been suggested that private industry runs on profits. However, other potential incentives can also get their attention. With this in mind another acquisition reform technique can be utilized to the advantage of both contractors and the Government. A contractor must remain motivated, but traditional methods are sometimes lacking in effectiveness. A new and innovative method can address a different way to motivate these contractors. The method is called Award Term contracting. [Ref. 46]

Two respected acquisition professionals, Kenneth Oscar and Thomas Luedtke, at that time the Deputy Administrator of the Office of Management and Budget's Office of Federal Procurement Policy and National Aeronautics and Space Administration's Associate Administrator respectively, both called it the most innovative approach in use at that time. [Ref. 47]

Award-term contract arrangements are very similar to award-fee contracts, however, instead of additional profit as compensation for quality performance, the contractor is awarded additional periods of performance. Or, if performance is habitually below standard, the period of performance can be shortened. Award-term arrangements are most suitable when establishing of a long-term relationship is valuable both to the Government and to the potential contractor. They differ from options in that award terms are based on a formal evaluation process and do not entail the regulatory procedures associated with priced options. [Ref. 46]

Adapted from the commercial industry practice of establishing and maintaining a long-term relationship with contractors interested in quality award term incentive arrangements can be a win-win activity. Proper application can lead to fruitful long-term relationships with contractors who have proven to reliable producers of goods and services. [Ref. 46]

It has been suggested that the benefits derived from this relationship offset the oversight required to manage this type of effort. The long-term nature of this association can lead to a mutual understanding of what is required by both the Government and the contractor. This

in turn reduces the need for constant attention to detail and, in turn, continual friction that can accrue between the two parties. Problems are raised and resolved in a partnership, and the time saved can directly benefit a downsized workforce with no inclination, or time, to resolve great numbers of issues in short term adversarial environments. [Ref. 46]

Research on this topic has suggested that by rewarding quality contractors, supporting capital investments and more effective process improvements, contract prices should be lower and associated administration should lessen to a comfortable maintenance level. If successful, this can be especially apparent in reacquiring the goods or services being provided. The many issues of quality, familiarity, and incentives lead to a major reduction in the amount of labor needed to prepare for a new contractor from scratch. The contractors are rewarded for good performance and implementing new improvements for a long-term effort. [Ref. 46]

H. CHAPTER SUMMARY

This chapter provided a description of a few new and/or innovative contracting methods that the contracting manager may use to apply sound business practices in Department of Defense contracting in order to mitigate the affects of the changing contracting environment and better support his customer.

The methods discussed in this section, namely electronic commerce with specific concentration on reverse auctioning, performance-based acquisition, price-based acquisition and award-term contracting were just a few of the new and innovative contracting methods that could have

been chosen as there are many being utilized in the Department of Defense currently.

A recurring theme throughout these techniques is one of the time and cost savings that these methods have the potential of creating. Saving time and resources through the use of these new and/or innovative contracting methods is a clear example of the contracting professional applying sound business practices in Department of Defense contracting.

The following chapter will concentrate on an analysis of the findings presented in Chapters III and IV.

V. APPLICATION OF SKILLS TO TECHNIQUES

A. INTRODUCTION

The purpose of this chapter is to explore the importance and application of those critical skills described in Chapter III as applied in the implementation of the representative innovative contracting methods described in Chapter IV.

Specifically, this chapter will provide an analysis of those skills that apply across all the innovative contracting methods discussed in Chapter IV. It will then analyze the remainder of the skills individually in terms of their application and use for each of the contracting methods.

B. BACKGROUND

As discussed in Chapter III, research for this thesis has demonstrated that the contracting professional must be proficient in a number of skill sets. These sets have been identified earlier as general business skills, core acquisition skills and advanced acquisition skills.

The application of these skill sets, and the subsets identified within each category, to the various innovative contracting methodologies will allow the researcher to demonstrate not only their importance individually but to discuss the interplay of the skills themselves. The researcher will also explore their value in the successful utilization of the representative contracting methods reviewed in Chapter IV.

Skills that fall within the general business category are the mainstays of the acquisition workforce, and in fact, any business workforce. As such, it will be

demonstrated that these skills are important across each of the representative contracting methods researched.

The skills categorized as core acquisition skills in Chapter III represent specific skills required to function at a highly efficient level in the acquisition arena. These skills are applied to the innovative contracting methods researched in varying degrees. The extent of application is dependent upon the contracting method being utilized. As the innovative contracting methods become more specific, some skills will be of high importance for each method and some skills may not be as important. For example, a skill such as customer focus, although an important and necessary ingredient, may play a lesser role in the electronic commerce area.

The researcher does allow for the possibility that the importance placed on each skill being utilized while working within an innovative contracting methodology can be determined, or at least influenced, by the individual. In fact, it is often appropriate to vary the degree of application depending upon the method being used. Even the stage of the method, be it beginning, middle or end, may influence the degree to which a skill is used.

Finally, advanced acquisition skills are applied to each contracting method. The application of these skills demonstrates a more in-depth utilization of knowledge in meeting the needs of innovative contracting techniques and introduces the added dimension of leadership ability into the equation. The deeper understanding of change management and project management, for example, allow for greater flexibility in the formulation of a solution for or resolution of a problem.

The researcher will provide insight into the application of the various skills by addressing each of the methodologies described in Chapter IV. This understanding will help to accent the importance of the proposed skill sets to the contracting professional of the future.

As previously defined by the researcher in Chapter IV, innovative contracting methods and the entire body of technology associated with the collection, analysis, utilization and distribution of information are a growing aid to the procurement professional. As such, each of the skills delineated in Chapter III are necessary for utilizing this new electronic commerce technology fully. The researcher also defined reverse-auction as a major subset methodology of electronic commerce. Reverse auctioning requires the full complement of skills as well. Therefore, the researcher will address reverse auctions alone in lieu of duplicating the application of skills in both electronic commerce and reverse auctioning.

This chapter will explore the use, impact and value of the skills against the following methodologies previously addressed. They are reverse auctioning, performance-based contracting, priced-based acquisition, and award-term contracting.

C. APPLICATION OF GENERAL BUSINESS SKILLS

The researcher has identified and defined seven general business skills that the contract professional needs to encompass and apply across the board of contracting methods discussed in Chapter IV. These skills represent basic strengths required to function successfully in today's business world. These general business skills were identified as communication and interpersonal skills,

professional presence, competency in information technology/computers, problem solving skills and a solid grounding in financial analysis.

1. Communication Skills

Communication, the ability to compose, transfer an idea, be understood and receive an answer, is a skill that can never be minimized. Important to every human endeavor, it is no less important in the field of business and acquisition. For instance, the contracting professional needs to apply these skills in the day-to-day application of understanding and clearly explaining requirements, in preparing file documentation that clearly captures and explains the goals, liabilities and regulatory limitations of an acquisition, interaction with program representatives and contractors as well as in exchanges with other contracting professionals and supervisors.

In today's technology-laden environment poor communication becomes especially dangerous. As discussed in the overview of reverse auctioning, there is an inherent potential to provide wrong information in real time to a broad customer base. If the requirement is misunderstood it may be passed on to industry incorrectly which can result in bad purchases, protests and the expenditure of additional costly labor to re-compete the effort. This situation is further complicated by having to communicate the workings of this reverse auction methodology that is fairly new to the Government.

Communication issues take on a larger concern in performance-based acquisitions, price-based acquisitions and award-term contracting. Under performance-based contracting, effective communication with the requiring

activity and potential offerors can be the difference between success and failure. The savings in time and cost are dependent on the offeror's understanding the intent of the Government's requirement and then effectively applying a solution.

The contracting professional is the bridge over which this communication flows. He must be able to understand the requirement, convey it to the contractor effectively and then await and evaluate the responses. Any misunderstanding in this flow destroys the ability of the Government and the contractors from benefiting under the performance-based philosophy.

To be able to convey requirements to industry, interpret responses, and communicate those responses to the requiring activity is complicated by the need for meeting with and briefing others involved in the contract action as a whole, e.g. auditors and small-business representatives. The many stakeholders in an acquisition create a situation where clear communication and understanding of the communiqués is invaluable.

This holds true for price-based acquisitions as well. Priced-based contracting and the various ways of implementing it, including but not limited to, evolutionary acquisition and incentive-term contracts, raise even more areas for miscommunication. Less cost and pricing data support information provided to the Government means that a premium is placed upon the communication that does transpire. This communication can become more important when it incorporates the complexities of evolutionary contracting, block technology development, and the need to maintain communication with the management from an

acquisition center though to the senior personnel at the Department of Defense.

Communicating in an environment in which we replace industry profit incentives with incentives related to quality and long term relationships is not an easy task. Both the Government and industry is still familiarizing themselves with the workings of award-term contracting. Miscommunication can result in a potential win-win situation deteriorating into a "he-said, she-said" battle that destroys its main advantage, establishing a long-term relationship between the Government and an outstandingly performing contractor.

The need for communication runs through each of these processes from the pre-award stage of an acquisition through final deliveries and contract closeout. At every stage in the life of an acquisition, good communication skills reduce the potential for poor relationships, misunderstood responses and wasted time, money and effort.

2. Interpersonal Skills

Interpersonal skills enhance communication as well as the effective integration of work effort and successful acquisitions. Reverse auctioning requires real-time interaction with industry as well as a number of technical experts from the various requiring activities. This interaction, as important as it is, pales against that required for effectively using interpersonal skills in performance-based contracting, price-based contracting, and award-term acquisitions.

The complexity of these methods and the oversight involved require hands on interaction with technicians, budget analysts, logisticians, and a multitude of other

professional categories of personnel. This can be essentially doubled when a contractor enters the picture, as he will provide one or two people to mirror the Government's support personnel.

To take this one step further, imagine a large, complex solicitation effort with major industry interest. The Government contracting professional may now be dealing with three, four or more "teams" of people. Constant interaction with these personnel, both at the working level and at senior management levels will continue from program inception until closeout. In fact, interaction may continue after closeout if interest remains high and additional briefings and meetings are required. One wrong word, one wrong impression or neglecting one office can result in major delays that negatively impact schedules and cost.

3. Professional Presence

Professional presence is an important attribute and skill, although in a subtle way. When dealing with people in teams, meetings and briefings, professional presence is always being gauged. It has been acknowledged that the way people carry themselves can affect a relationship, be it personal or professional. When dealing with the public, as Government acquisition personnel regularly do, maintaining a professional presence aids in the effective use of other skills such as communication, interpersonal relationship skills and every area associated with interaction with other individuals.

Furthermore, maintaining professional presence gives the individual a modicum of credibility with other professionals. A person, who may be slovenly and displays little self-confidence, is less likely to command the

respect necessary to be an effective contracting professional. Having positive professional presence is subtle, but nonetheless still important in maintaining a respectful partnership with industry representatives, subordinates, peers and supervisors.

4. Information Technology and Computer Competency

The awareness of and ability to utilize current technology especially that associated with computers and the Internet is used throughout the methodologies discussed previously. As technology usage allows for greater information collection and distribution in real time, it is a cornerstone of methods such as reverse auctioning and the solicitation of all acquisitions including those previously touched on in Chapter IV. In fact, the ability to maintain constant contact with industry, via computer technology and the Internet throughout the solicitation process and then the subsequent contract, is a key to successful performance-based contracting. The Internet and computers allow interaction to take place 24 hours a day if necessary.

Everything from meeting reports, contract/file documentation and written communications can take place in a computer driven environment. Access to myriads of information on vendors, market data, and industry is available for the contracting professional to utilize in the performance of his duties.

In today's environment where anybody, including Government contractors, with a computer and a modem can access this information, it makes it that much more important for a Government contracting professional to have the same information available to him. Therefore, computer

literacy is extremely important in the acquisition field today. A contracting professional operating without the ability to use this technology is simply not the best use of a contracting professional's efforts. To do so could cost the Government extra dollars and time to accomplish the same thing as a contracting professional who has computer usage ability.

5. Problem Solving Skills

Even with the information provided by technology and interpersonal relationships, problems do arise. The ability to resolve problems after reviewing the available data, assessing the situation and developing a solution crosses the boundaries of every contracting method described in this research. Problems arise from the early stages of an acquisition and in one way or another, continue throughout a contract or program's life. Each of the contracting methodologies provides fertile ground for problems to arise.

As examples, if Internet connections go down can a reverse auction continue, and if not, what is the alternative? If a Government performance statement of work did not address an issue that was needed to meet mission requirements, how does the contracting professional remedy the situation? Will past performance data provide the necessary information to allow for a price-based determination? Will the award of a performance extension provide the necessary incentive to the contractor whose main customer is commercial not Government? All of these situations are just some of the problems that can arise.

There will always be problems or issues to deal with in the contracting arena from minor to major in scope.

Nothing gets accomplished perfectly 100% of the time. Problems, be they large or small, will be with the acquisition professional at every stage of the process. The acquisition professional must be able to recognize a problem, assess its impact and develop a solution or work around to move the acquisition process forward. A contracting professional absolutely needs problem solving skills in the performance of his job.

6. Financial Analysis Skills

The ability to understand, interpret and utilize financial data to develop negotiation positions or simply understand a proposal is very important in the complex methodologies being utilized today. This, plus the need for more commercialized procedures and a better understanding of the underlying financial impact to the acquisition process require contracting professionals to be highly conversant in the financial area.

Some areas, such as reverse auctioning, require a minimum amount of understanding, but it must be there so that the market forces driving price reductions and basic business practices to prevent harm to bidders becomes second nature.

The methods discussed on performance and price-based acquisitions and award-term contracting make the need for financial expertise very important. To achieve performance and meet Government expectations, finances must be tracked and adjusted continually. Changes to the performance requirements of a specification will, in most cases, affect the price of the good or service. Being able to analyze the change and its accompanying financial impact will be important to keep the program within cost ranges.

To utilize price-based contracting, the contracting professional needs to understand how the price is developed and to understand the forces that affect the price, and then be able to analyze those data. This financial analysis ability may be extremely important when using price-based acquisition as there will be minimal, if any, cost data for the contracting professional to use to make a fair and reasonable determination. The financial data, provided by the offeror may be the biggest determinant in selecting a winner. The ability to analyze these financial data may be the difference between paying a fair price and paying an inflated one.

In the area of award-term contracting, even with less emphasis on profit or fee, the acquisition professional must understand the financial impact and value associated with other types of incentives. This includes intangibles such as schedule extensions, data rights and other incentives.

This researcher believes that the general business skills are required and utilized across most if not all contracting methodologies regardless of their inclusion in the previous discussion. They are the foundation that provides the contracting professional with the skill to accomplish the mission, while laying the groundwork for additional skills to be learned and utilized. The researcher will discuss some of these additional skills, as defined in Chapter III under the heading of core acquisition skills.

D. APPLICATION OF CORE ACQUISITION SKILLS

As discussed earlier in this thesis, a number of skills were discovered to be important in the day-to-day

functioning of the contracting professional in the workplace. These ten skills, although necessary, can vary in importance and use. Some of these skills, such as decision making, commercial business practice and supply chain management are obviously important to many individuals in other fields. Others, like Department of Defense acquisition knowledge, tend to focus more on the dealings of Government and defense industry practices in acquisition. That being said, each of these core acquisition skills are applied where and when needed in each contracting method as determined by the Government acquisition professional.

The researcher will provide an analysis of the utilization of these core acquisition skills as they relate to innovative contracting methods previously discussed in Chapter IV. It is also apparent, after discussion and research related to these skills, that they are applied in response to their importance/value in the particular method being used. When they are used in an acquisition cycle, how they are used and to what extent they are used can be influenced by the contracting professional's personal opinions, level of experience, current skill and/or preference.

1. Core Acquisition Skills Used in Reverse Auctions

In the researcher's analysis, reverse auctioning, and electronic-commerce as a whole, require that emphasis be placed on four of the acquisition skills identified. These four are knowledge of the Department of Defense acquisition process, the surrounding environment, commercial business practices and market research.

In any area encompassing electronic commerce, with both its advantages and disadvantages, one must be aware of the regulations governing the Department of Defense acquisition process. Obviously, the use of reverse auctioning requires that the contracting professional be conversant in current regulations and guidance concerning competitive procedures, restrictions on use and lessons learned.

A strong awareness of the current environment is also a necessity. To effectively apply reverse auctioning, the contracting professional should have assessed the economic climate, the political implications and impact of awards to various industry partners. Any contracting professional who has received a protest or letter from a member of Congress quickly learns to stay attuned to the outside forces that may affect each acquisition. The real-time nature of using electronic commerce methods to conduct reverse auctions makes it especially vulnerable to real-time criticism and issues.

To effectively use a reverse auction, the contracting professional must be able to assess how offerors will respond, assess what will be their areas of concern and also assess what are the details surrounding the goods or services being acquired. This knowledge of commercial practices should be utilized at the time the requirement has been identified as well as using that knowledge to determine how and with whom the auction should be conducted. A misunderstanding of how offerors may respond to a request could result in no responses at all.

The final skill of major importance to reverse auctioning is that of market research. This methodology

provides many advantages to the Government, but does so at the expense of face-to-face interaction and its associated give and take. To buy a product over the Internet, sight unseen and with minimal contact with the offerors, means that the acquisition professional should already be familiar with all the details of the item including but not limited to availability, pricing, discount, models and options in the market. Market research is a key to finding this information.

In terms of decision making ability in the reverse auctioning arena, even though all actions necessitate decisions, the decision process has been reduced in the area of reverse auctions. The established rules and procedures of reverse auctioning in today's environment lead to simple decision making versus in-depth reviews and information assessment.

However, given that reverse auctioning is completely driven by technology, it is reasonable to assume that the reverse auctioning process of today will be quite different in the future. Therefore, the contracting professional will need decision making ability to assist him in determining how the reverse auctioning system can best be changed. He will need to decide what new capabilities he would like the system to have. He would need to decide if he would like it to have a more robust best-value aspect versus simply lowest bid winners. Therefore, decision making ability in this reverse auction method may become very important in the future as the technology matures and new capabilities become available.

As for the other skills and abilities, they play lesser roles in reverse auctioning. For example, knowledge

of supply chain management is not heavily involved as reverse auctions are, at present, typically used in the acquisition of established commercial products such as printers and fax machines. Reverse auctioning also reduces the level of risk in acquiring the good, as the good or service is typically a commercial item. The need for negotiation expertise plays a minimal role in the reverse auctioning process as the winning contractor wins by having the lowest bid. As currently used, there is very little trade-off potential in the process. Reverse auctions also reduce the interaction to a few individuals on each side of an Internet link so that little emphasis is needed on cross functional team expertise and customer focus.

2. Core Acquisition Skills Used in Performance-Based Acquisitions

The effective use of performance-based methods of procurement requires the application of each of the ten core acquisition skills as defined by the researcher. Each of these factors is of major importance to any methodology that relates to this type of contracting approach. In this case, the emphasis on performance specifications versus the requirement to deliver in accordance with detailed military specifications demands that the contracting professional be able to apply all core competencies to result in a successful acquisition.

Initially, at the requirement development stage, knowledge of Department of Defense acquisition practices is extremely important. It lays the base for the acquisition and makes sure that all necessary approvals and procedures are in place. A mistake in identifying this type of information may cause major delays, funding issues and, in

the extreme, program cancellation. Throughout the life of the contract this knowledge must remain current.

Knowledge of the surrounding environment and commercial business practices also comes into play. To initiate a requirement, the acquisition professional must be aware of the economic and political climate that may affect the program. By understanding commercial business practices and how they apply to private industry, the contracting professional can tailor the acquisition strategy, where possible, to take advantage of industry standards and processes.

Next in importance, in this researcher's analysis, would be the application of market research, supply chain management knowledge and risk management. Once the requirement has been identified the acquisition professional, in concert with other acquisition support personnel, must be able to define the requirement in relation to what is available in the market, identify the producers and how they tend to operate. After collecting this information, a risk assessment must be made concerning requirements versus expected results based upon performance-based statements of work.

Using a performance-based approach puts more risk on the Government in that the Government no longer dictates to the contractor how to meet the requirements. Instead, it allows the contractor to propose his solution. This is risky for the contracting professional. Analyzing the pros and cons of the risk is of key importance.

As the acquisition moves through the pre and post solicitation phases, emphasis on the ability to maintain

customer focus while working with cross-functional teams composed of personnel from both the Government and private industry players, becomes the key to success. Having a burning desire to satisfy the customer is very important in performance-based contracting because one of the ultimate goals of any acquisition, performance-based or not, is to assure the customer's satisfaction. If the customer feels free to describe what he wants and feels comfortable knowing the contracting professional, working with a team of experts from different functional areas can translate that to performance specifications, he will be more confident in using it and will be willing to let go of the military specifications he is more comfortable with.

Using performance-based contracting also requires that the contracting professional apply negotiation skills. These are used, not only in the traditional sense with offerors but within teams, meetings, approval reviews and briefings. The idea is to stay within regulatory bounds, satisfy the customer and provide incentives to the offerors for total win-win awards and continuing programs. The contracting professional has many stakeholders to satisfy. Negotiating the best outcome that satisfies to the maximum amount all the stakeholders is very important.

Last but not least, sound business judgment and decision making go hand-in-hand with all aspects of performance-based contracting. In fact, performance-based acquisitions, in this researcher's experience, tend to be fertile ground for issues to arise that need resolution and definitive action. The ability to assimilate information and develop sound decisions is invaluable in the successful performance and completion of an acquisition.

With the exception of market research, each of the ten core acquisition competencies should be continually applied throughout the performance-based contracting process. This will tend to be true for most "contract type" methodologies and will be illustrated in the researcher's analysis of their use in price-based and award-term contracting.

3. Core Acquisition Skills Used in Price-Based Acquisitions

In the fairly new world of Government price-based acquisition, knowledge of the Department of Defense acquisition process remains important. It again allows the basis for the acquiring of goods and services that meets the Government's needs while staying within the boundaries of laws, regulations and Congressional mandates. This aside, price-based acquisition demands that the contracting professional have expertise in a number of core acquisition skills.

As price-based methodologies place emphasis on the potential awardee's commercial pricing practices and performance history, and remove the requirement for cost data support, an acquisition professional must be able to apply skills associated with determining a potential contractor's price as fair and reasonable without the benefit of cost and pricing data. With little cost support data provided during the acquisition process, the importance of the core skills associated with obtaining, reviewing and understanding existing information becomes apparent.

Knowledge of the surrounding environment of the contractor and the ability to conduct market research is very important to the contracting professional when using

price-based acquisition. If he has an understanding of the potential offeror's competitors, his current contracts and the market in which the offeror operates, he can better understand the pricing of the offeror's proposal. The contracting professional may be able to adequately determine price-reasonableness by comparing the offeror's proposal to that of other companies offering the same or similar products. Without knowledge of the offeror's environment and the market in which he operates, the determination may not be as easy or accurate.

Clearly, knowledge of commercial business practices plays an important role in price-based acquisition. The contracting professional should know how offerors price their products and the pricing methodologies that they use. Price-based acquisition is a mainstay in the commercial business world. If the contracting professional hopes to use price-based acquisition as a means to acquire a good or service, he must know how the pricing is done in the commercial world.

Risk management plays a key role in price-based acquisition as the Government is now assuming a greater risk in determining a fair and reasonable price without the benefit of cost and pricing data. The contracting professional must be able to make an assessment as to the risk in going forward with an acquisition without cost data. The risk is that the customer may be paying too much for the item. The contracting professional must be able to mitigate that risk by getting other pricing data to help ensure that the customer is paying a fair and reasonable amount. Balancing the risk (risk management) is a skill

that will be very important in a price-based type acquisition.

Customer focus is important here because the contracting professional must ensure that the use of a price-based acquisition does not create a situation where the customer is paying more than a fair and reasonable price for an item. If the contracting professional does not have the customer's best interest in his mind, he may not be as willing to do the necessary work to determine a fair and reasonable price.

Negotiation and cross-functional teams are minimal in this type of methodology early in the process. During the evaluation period for award and after contract award they increase in importance. They provide the framework necessary for continual interaction between the Government and contractor personnel to achieve a successful acquisition. The cross-functional team members provide valuable input during any negotiation. This input can help offset the risk of not having cost and pricing data and aid in the determination of a fair price. Furthermore, the ability to negotiate with a contractor who is not required to provide cost and pricing data is very important.

Every step of the way in this contracting methodology requires decisions to be made. A contracting professional must be able to decide if a price-based acquisition is the right approach, if the risk is manageable, and if a fair and reasonable price is being paid. If he decides that it is, then he will proceed. If he decides that it is not, then he must make another decision as to which way to proceed. In any case, if a contracting professional cannot make a decision one way or the other, the program suffers.

As far as supply chain management knowledge is concerned, use of that skill in price-based acquisition is very important. Given that there is very little cost and pricing data for the contracting professional to evaluate in determining a fair and reasonable price, the contracting professional must rely on other data to make this determination. Knowledge of the contractor's supply chain system is one way for the contracting professional to gain insight into his pricing strategy. For example, if the contracting professional knows the contractor uses a just-in-time inventory system versus a batching process, that knowledge will assist him in making his fair and reasonable assessment. Furthermore, the contracting professional can use supply chain management knowledge to give himself a better sense of how what the contractor is doing and how he is accomplishing his goal. If the contracting professional determines that the supply chain of the prime contractor is not functioning optimally, he may be cautioned to look further into his pricing to see if the contractor is over-pricing in order to compensate for a shortfall somewhere in the system.

Another way the researcher can see its application in this contracting method is that supply chain knowledge can help the contracting professional ensure that any of the sub-contractors working for the prime contractor provide him with fair and reasonable prices.

4. Core Acquisition Skills Used in Award-Term Contracts

The application of core acquisition skills associated with the use of award-term contracts is similar to both performance and price-based methods. The main difference

would be the emphasis placed upon certain core acquisition skills.

The knowledge of the Department of Defense acquisition process and the surrounding environment is critical. To utilize a method new to the Government requires grounding in what the constraints are on the Government and what actions and processes are mandated by law. New methods cannot be addressed when there is not a full understanding of the older and existing methods. The contracting professional must also be able to assess and factor in the market environment. Until recently, this method was not used by the Government in an advantageous fashion.

Market research skills are still important in establishing product and service availability, early contact with industry and gauging the scope of potential offerors. The skills associated with decision making also remain a constant under this methodology. Decisions will be made through the life cycle of this acquisition process. Some will be handled independently; others will be handled with the participation of successful offerors. In the world of acquisition, decisions will always have to be made. Under this type of contracting method, most of the decisions will be day-to-day decisions during contract performance and administration. Of course the possibility of default and serious performance issues can always arise and complicate things. This holds true for negotiation skills. As discussed under previous methodologies, negotiation skills are important during the acquisition phase, but also necessary for supporting the interpersonal skills that are extremely important in making award-term contracts successful.

However, these skills and those involved in decision making, pale in relation to the value of the following group. In this particular instance, the researcher feels that supply chain management, commercial business practices, customer focus, cross-functional team skills and risk management are the most critically needed skills for this methodology.

To successfully apply a proven commercial method to Government contracting takes more than desire. A detailed knowledge of supply chain management gives the contracting professional an understanding of processes, trade space and the understanding to craft award-term conditions and requirements. To use performance incentives requires an understanding of what, other than profit, can be utilized in award-term contracts to incentivize excellent performance. This understanding must be utilized in the early stages of developing the acquisition to allow for a strong response to a request for goods or services. It must be continually applied through the life of the contract to maintain that point where other types of incentives surpass the need for pure profit.

This also applies to knowledge of commercial business practices. Award-term contracting is a methodology that has been utilized in private industry for many years and to great advantage by many companies. Even though the Government has recognized the advantages of award-term contracting, it does not have the history reflecting its use. Grounding in commercial practices gives the contracting professional the tools he needs to work with this commercial practice and understand the basis for its use and success. Without a sound knowledge of commercial

practices the contracting professional would be going over new ground, or even worse in the researcher's analysis, going over old ground without any concept of what or why something happened.

Customer focus maintains an elevated status as the customer's satisfaction in the contractor's performance influences the reward/punishment areas involved in the incentive process. The acquisition professional must be astute enough to balance the customer satisfaction or discontent with the way a contractor is rewarded or incentivized. This will, in all likelihood change as time passes. These skills lead into the necessity of strong cross-functional teaming skills being part of a contracting professional's arsenal.

The ability to effectively deal with teams, comprised of both contractor and Government personnel, is a major part in maintaining the true long-term partnership that award-term contracting was developed to do. Constant interaction is required to maintain this long-term relationship and allow each party to receive the many benefits. The contracting professional will need the ability to work in these teams as well as manage them.

Regarding use of risk management skills, the researcher offers the following: (1) Award-term contracting is a new method to the Government, (2) experience with this method is limited, and (3) contains an unusual incentive by Government standards. These three issues make attempting an award-term contract risky in and of itself.

Furthermore, risk management skills will be necessary to determine whether the environment is conducive to a long-term relationship. New contractors may enter the scene and getting locked into a situation with a contractor may not be the best situation. Risk will play a part throughout the solicitation/award process and the life of an award-term contract.

These core acquisition skills can be enhanced through experience and additional education as discussed in Chapter II. Other skills may need to be applied by the contracting professional to successfully tackle today's complex acquisitions. The researcher has identified some advanced acquisition skills that lend themselves to the future acquisition workplace. These advanced acquisition skills will be addressed in the next section.

E. ADVANCED ACQUISITION SKILLS

As more innovative methods of contracting and acquisition reform are introduced and the complexity of these and existing methods continues to grow, the need for specialized or enhanced acquisition skills becomes important.

The researcher has identified six categories of advanced skills in which the acquisition professional should become proficient. These specialized skills and knowledge areas are in-depth supply chain management understanding, change management, analytical thinking, project management, financial/budget knowledge and leadership.

Each of these areas imparts useful knowledge to the acquisition professional and assists in the application of both old and new innovative contracting methodologies.

These areas impart the type of knowledge that lends itself to a greater level of participation in the entire acquisition process, not just the contractual portion. The emphasis is on skills that demonstrate that the contracting professional is an acquisition team player and takes on greater responsibility in the cradle to grave aspects of acquisition.

1. Advanced Acquisition Skills Used In Reverse Auctioning

Reverse auctioning, although allowing less flexibility in its preparation and implementation, still benefits from the advanced skills defined by the researcher. Supply chain knowledge translates into specific product knowledge. In reverse auctioning, product knowledge is one of the most important considerations. Recognizing the changing business landscape as well as the continual change within the Government requires a strong understanding of change management, its causes, impact and minimization of its disrupting effects. Without this knowledge, the acquisition professional can get distracted from his real purpose thereby reducing his effectiveness.

Analytical thinking is utilized in the preparation of the acquisition. Although reverse auctioning is fairly well outlined, should problems arise during the real time auction, an acquisition professional should be able to resolve them. To be effective, real time analysis and the ability to make a decision based upon that analysis is a necessity.

Project management and financial budget play a small part in the reverse auctioning method but address areas of constant import to the Government’s acquisition process.

An understanding of the requirements office and its budgetary constraints as well as the financial aspect of private industry lends themselves to producing more effective reverse auctions.

From the standpoint of leadership, it can be said that even in the area of reverse auctions an individual must assume the role of guiding the action and making responsible decisions. To do this correctly, the acquisition professional must have an understanding of leadership and be able to apply that understanding when dealing with others.

The impact of these advanced acquisition skills is much greater on the performance-based and price-based contracting methods as well as the award-term method, which will be analyzed in the next sections.

2. Advanced Acquisition Skills Used in Performance-Based Contracting

The researcher believes that change management, analytical thinking, project management and financial/budget knowledge are the key skills utilized in performance-based methods of contracting.

Performance-based methods and contracts are ripe with change. To be effective, they must be flexible. The acquisition professional must recognize and deal with changes in the contract, requirements, and personnel within and out of his organization. As change tends to make many people uncomfortable, the importance of understanding and managing change becomes apparent.

These changes also invite the need for constant analysis of the situation. New ideas must be entertained, analyzed and resolved for use. The acquisition

professional must take the information available and, after due consideration, apply it in such away that benefits the stakeholders involved to the best extent possible. Poor analytical skills translate into poor decisions and then possibly to bad contracts. This results in the loss of time, effort and money.

Project management and financial/budget skills go hand-in-hand. In the performance-based methodology, the acquisition professional is part of the requirements team. Any understanding of how that team works goes a long way in building customer relations and developing and issuing sound acquisition strategies. The knowledge of finance and budget is the lifeblood of the product, program or project manager. To understand this flow of dollars and its application as well as private industry's perceptions is invaluable to successful acquisitions. The need for this understanding leads us to the need for leadership skills.

Today, the acquisition professional is part of the acquisition team. As such he can expect to be in a leadership role in his organization as well as on Government/contractor teams and other group structures. To be successful he must be able to assume and understand the leadership role. His leadership skills can make for effective interpersonal activity and strong cross-functional teaming arrangements.

3. Advanced Acquisition Skills Used in Price-Based Acquisitions

In the price-based arena, change management and leadership take a back seat to other specialized skills. Although still important, change and leadership roles are not the mainstay. Although change is a constant factor in

the acquisition field it can be addressed more easily than the areas described below. This holds true for the area of leadership as well.

Emphasis must be placed on the specialized skills that provide the greatest benefit to the successful implementation of the method involved.

With minimal cost data being provided, the contracting professional must depend on the detailed supply chain knowledge to assess what the contractor can and cannot do. This is tied into the need for understanding project management and how the budget and financial considerations all tie together. To effectively perform the trade-off necessary for a good acquisition in a method that reduces dependence on cost data, the contracting professional must be able to assess information based upon or related to the propagation of costs.

The analytical skill required to utilize limited cost/price data and develop an effective Government position is tremendous. The contracting professional must be able to look at the situation, in terms of the pricing information, from a commercial standpoint as well as from the Government's standpoint. Again, there is limited cost and pricing data to analyze, so the contracting professional must be able to analyze different data.

This analysis will more than likely be of a different nature than the contracting professional might use in a cost environment. For example, in a cost environment, the contracting professional might use regression analysis, break-even analysis or learning curve analysis. Without cost data however, this type of analysis is not possible in

price-based acquisition. Therefore, his analytical skills must be used to analyze other data such as specific market trends, broad industry trends, or past-performance trends. Analyzing these different positions becomes a critical skill in aiding the contracting professional to determine the best way to handle a particular instance where cost data may not be available to assist him in making a fair and reasonable price determination.

4. Advanced Acquisition Skills Used in Award-Term Contracting

After analyzing the skills for their relative importance, the researcher believes the advanced skills of major importance to award-term contracting are very similar to those used in the price-based methodology.

Change management and leadership skills, although important, still spend most of their time in the background. One always has to deal with change regardless of the type of contracting method used. Furthermore, being a strong leader is also important and as a contracting professional who is managing an acquisition, leading the team players through the process is critical in any contracting method used.

The real emphasis is on the advanced skills that provide useful insight into the needs and workings of both the Government and business entities involved with the acquisition. To be effective and provide useful advice and guidance while crafting flexible contracts, the acquisition professional must stay current on the budget/financial issues of his customer. He must also understand these same issues as they apply to the contract plus incorporate his knowledge of supply chain management. Since the goal of an

award-term contract is long term partnering between the Government and a contractor, the acquisition professional must understand the wants and need of both parties. In understanding the needs of each party he can than develop a strategy for applying non-profit incentives that provide for a defined contractual effort that benefits everyone.

To accomplish this, analytical thinking is continually applied based upon information received. This analysis along with knowledge of the contractor's processes and the Government's needs and limitations translates into a continuous reevaluation of the program in contractual updates to keep it effective.

The advanced contractual skills, whether based upon experience or continued education, allow the acquisition professional to expand the boundaries of what the job formerly entailed. They bring with them the ability to assume broader responsibility and provide greater benefits to the acquisition process.

F. CHAPTER SUMMARY

As stated throughout this chapter, skills, ranging from general business skills, that apply across the spectrum of contracting methods described herein, to core acquisition skills and advanced acquisition skills that apply in varying degrees to each contracting method, are all important to the contracting professional.

This chapter analyzed the various skills as they are applied in each individual contracting method. It described their importance for use in the specific contracting method. Finally, the chapter also described when the skills may not have been used or may have been used to a lesser degree than the other skills.

The final chapter will develop conclusions and recommendations based on this study. It will also answer the thesis questions and provide suggestions for further research into the skills of the contracting professional.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. INTRODUCTION

The purpose of this chapter is to provide conclusions and recommendations based on the findings in this study. The researcher will answer the thesis questions presented in Chapter I and will conclude with suggestions for further research into the area of skills and abilities of the contracting professional.

B. CONCLUSIONS

Several conclusions can be drawn from the research and analysis provided in this thesis. Five particular conclusions are contained herein. These conclusions cover broad macro issues as well as micro issues that this research addressed.

Conclusion #1. The acquisition environment of today and that of the future will demand an increasingly flexible set of acquisition skills that are understood and effectively applied by contracting professionals.

The contracting profession has changed from what was formerly considered to be a clerical position to the value-added, business management position it is trying to become today. As a result of the changing environment and the reduction in contracting professionals in the Department of Defense workforce, skills required by the contracting professional of the past are no longer sufficient for the contracting professionals of today. Those skills such as regulation knowledge and correct contract documentation filing are still needed, but they must be enhanced with more business skills such as financial analysis, decision making, and leadership.

Not only must contracting professionals enhance their skills and abilities to better support the customer, they must understand and embrace those skills so that they use them effectively. Acquiring the skills is not enough. An effective contracting professional must be able to choose from all his skills to apply the best skills and abilities to meet the needs of the particular situation.

Conclusion #2. Skills can be organized into three different categories as follows: general business skills, core acquisition skills and advanced acquisition skills.

Three separate categories of skills and abilities were described in this thesis. The first set of skills, general business skills, are the generic skills that are needed by individuals in order to be members of flexible, adaptable, and competitive workforces. These skills are the fundamental skills without which, members are virtually unqualified to function successfully in any business environment, Government contracting included. These skills are communication skills, interpersonal skills, professional presence, information technology and computer literacy skills, analytical/problem solving skills and financial analysis.

The second set of skills was categorized as core acquisition skills. These skills give an individual the ability to perform their day-to-day activities in the acquisition field in order to conduct Department of Defense business in such a manner that is critical to achieving best-value acquisition while simultaneously serving all stakeholders. The core acquisition skills described in this thesis are knowledge of Department of Defense acquisition process, knowledge of the environment

surrounding a particular acquisition, supply chain management knowledge, knowledge of commercial business practices, knowledge of market research, decision making skills, skill at working in cross-functional teams, negotiation skills, risk management skills as well as the ability to be customer focused. These core acquisition skills can serve as basic building blocks to obtaining advanced and specialized acquisition skills.

The third set of skills is advanced acquisition skills which are utilized in the most complex functions of the acquisition profession. These skills are based on the premise that contracting professionals must assume end-to-end responsibility for a given project as well as for the relationships within it. These highly complex and dedicated skills are focused on customer relationship management and strategic management. These skills are an in-depth supply chain understanding, change management skills, analytical thinking skills, project management skills, financial/budget knowledge and leadership.

Conclusion #3. Several innovative contracting methods exist in the acquisition arena today that are available to the contracting professional to utilize in supporting the customer in the best possible manner.

This research has described several innovative contracting methods that the contracting professional may utilize to better support his customer. Although those techniques described herein are by no means a comprehensive list of contracting methods available today, they are representative of innovative ways that the contracting professional may use to apply sound business practices in Department of Defense contracting.

In today's technological environment, using electronic commerce is very important for the contracting professional. Utilizing the Internet alone has been shown to provide endless possibilities in streamlining the acquisition process. The ability to use paperless contracting, electronic signature and the Government credit card are just a few ways that electronic commerce has enabled the contracting professional to conduct business with less resources and in a quicker amount of time.

Reverse auctions, via the Internet, have also been shown to be an innovative tool for the contracting professional. As it is designed to bring sellers down to the lowest possible prices that the market allow, it serves as a way for the Government contracting professional to provide a product or service to the customer at a lower price than might be achieved through traditional sealed bidding methods.

Performance-based contracting is yet another methodology that can be used by the contracting professional. The innovation here lies in the statements of work changing from "do it this way" specifications to "this is the result/performance the Government wants." This opens up many new possibilities for the Government as it can now allow the contractors to propose solutions to best meet the requirement.

Price-based acquisitions also provide the contracting professional with an innovative way to conduct business. Not requiring cost and pricing data and conducting lengthy audits to determine fair and reasonable prices is very new to the contracting professional. Using this commercial pricing methodology of price-based acquisitions instead

allows the Government to better interact with commercial businesses that do not provide cost data to its customers. Being able to use other than cost or pricing data, such as market data and past performance data can be used instead to determine fairness and reasonableness.

The last technique described herein is award-term contracting. This method provides the contracting professional an alternate means of motivating a contractor towards excellent performance. Using more profit or fee may not always motivate every contractor, so the ability to incentivize them with more contract performance periods gives the contracting professional another acquisition tool.

Conclusion #4. The skills identified in this thesis are not applied to every situation or contracting method in the same manner or with the same intensity.

Although the skills described herein are mostly utilized in one way or another throughout the course of a contracting professional's day, they are not always used at the same time, in the same manner, on the various contracting methodologies or even with the same intensity.

A contracting professional will most definitely utilize general business skills daily as they are the basic strengths required to function successfully in today's business world. However, even these basic skills are not used in the same way in every situation. In one situation such as using performance-based contracting, communication skills are extremely important. But in another situation where communication with offerors is limited prior to

award, such as in reverse auctioning, communication may not be as important.

Core acquisition skills are also applied in varied ways and with varied intensities. As an example, negotiation skills which have always been important to the contracting professional become less important in the area of reverse auctioning. Conversely, in the area of performance-based acquisitions, the ability to negotiate is extremely important.

The same holds true for advanced acquisition skills. In the area of price-based acquisitions, knowledge of supply chain management and financial and budget knowledge become extremely important to the contracting professional. But in the area of award-term contracting, although financial and budget knowledge is important, it may not be as important due to the nature of the contracting method of rewarding with more time versus rewarding with more money.

Conclusion #5. Indications are that the Government will continue to move towards the integration and implementation of commercial business practices.

Research for the topics in this thesis has also led this researcher to the conclusion that the Government acquisition process is being transformed to more closely mirror that of a commercial business as much as possible. Many of the skills that have been described herein are the same as those practiced by contracting professionals in the private sector.

Furthermore, some of the innovative contracting methods described herein are common business practices to contracting professionals in the commercial world.

Therefore, as the Government tries to work more closely with the commercial world, it is attempting to adopt some of those techniques that the commercial world uses.

C. RECOMMENDATIONS

Several recommendations can be suggested from the research and analysis provided in this thesis. Those particular recommendations are contained herein. These recommendations cover broad macro issues as well as micro issues that this research addressed.

Recommendation #1 Contracting activities such as the Communications Electronics Command Acquisition Center should foster an environment where contracting professionals want to learn and apply new skills in the performance of their duties.

If contracting activity managers want their contracting professionals to become more businesslike in the performance of their duties, they should create an environment wherein the contracting professionals actively seek to learn new skills and then apply them to better support the customer.

One way this can be accomplished is by recognizing those professionals that do use new skills and new techniques to accomplish the mission regardless of whether the outcome is positive. Showing the contracting professionals that trying a new skill or technique is a step in the right direction may help encourage other contracting personnel to do the same. If contracting professionals feel free to try something new without fear of reprisal if it does not work, then it is possible that more contracting professionals may step out of their normal

contracting procedures to attempt using a new skill or contracting method.

Recommendation #2 Contracting managers should require that business oriented training and classes are made a mandatory part of an individual's career development plan.

Requiring business oriented training be added to an individual's career development will make it a mandatory requirement that a contracting professional must meet to fulfill his yearly training requirement. For those contracting professionals who want to learn new skills, this will not be an unwelcome change to their individual development plans.

However, for those contracting professionals that do not want to learn, understand, and then apply new skills, it will not be welcome. But, it will force these individuals to at least take the classes. Hopefully, once they are in the classes, they will then walk away with at least knowledge of the new skills and or contracting methods. That could then lessen their reluctance to try a new contracting method.

Recommendation #3 Contracting professionals should be incentivized to utilize new and innovative contracting methodologies in the performance of their duties.

A contracting professional that feels there may be some incentive to "thinking out of the box" and for trying something innovative may be more willing to do so. That incentive could simply be a letter of recognition, a monetary award or even time off.

Although incentivizing an employee to do that which management already considers being part of his job

description may seem unorthodox, it is really no different than when the Government incentivizes contractors to perform beyond the basic requirements.

Recommendation #4 A knowledge management system should be put in place in buying activities to capture lessons learned regarding the usage of innovative contracting methods.

Capturing the knowledge that is generated on a daily basis by the many contracting professionals in a buying activity and making that information available to all other contracting professionals will help those contracting professionals learn new skills and learn new contracting methods.

It will also create a situation where one contracting professional does not have to "recreate the wheel" when trying something new. If the contracting officers and contract specialists can readily review lessons learned and success stories, they might be more willing to try a new and/or innovative contracting method.

Recommendation #5 On-the-job training of contracting professionals should consist of rotations throughout various peripheral offices to aid the individual in attaining those business skills not directly related to contracting.

As another method to learning new skills other than classroom training, rotational assignments through various departments should be a part of a contracting professional's on-the-job training. It is far easier to understand a concept such as program management if you have

the opportunity to train in a program office versus reading about it or hearing about it in a classroom.

To take it one step further, cross-training could be done with industry partners to get a better understanding of their commercial business practices. Both the Government contracting professional as well as the contractor could benefit from the interaction by seeing the other's point of view and by seeing how each other perform their jobs.

D. ANSWERS TO RESEARCH QUESTIONS

The following primary and subsidiary research questions were addressed in the course of this study. Each question and a brief answer are provided below.

1. What are the critical skills necessary for the contracting professional to become a business manager in support of Department of Defense requirements and how might these skills be developed?

Several critical skills have been determined necessary for the contracting professional to become a business manager in support of Department of Defense requirements. The list of those skills follows, but is by no means an exhaustive total list of all skills that the contracting professional may use.

The contracting professional will use general business skills such as communication skills, interpersonal skills, professional presence skills, information technology and computer competency, problem solving skills and financial analysis skills.

The contracting professional will also use core acquisition skills in supporting the Department of Defense.

Those skills and abilities are knowledge of Department of Defense acquisition process, knowledge of the surrounding environment, knowledge of supply chain management, commercial business practices knowledge, market research knowledge, decision making skills, customer focus ability, skills at working in cross-functional teams, negotiation skills and risk management skills.

Finally, the contracting professional will use advanced acquisition skills of in-depth supply chain management knowledge, change management, analytical thinking, project management knowledge, financial/budget knowledge and leadership skills.

All of these skills will help the contracting professional conduct business more like a business manager versus a "contract writer."

Acquiring these skills can be accomplished through on-the-job training, rotational training through other non-acquisition related areas, college education, and graduate degree programs as well as the individual himself making use of knowledge management systems if they are available at his particular place of employment.

2. What work effort does the contracting professional perform today and what might be expected in the future?

The contracting professional's workload in the past has predominantly been the act of turning the requirements of a particular acquisition into the solicitation and into the contract. He spent his time coordinating documentation and making sure that all contractual language was correctly incorporated into the contract. His actions were mostly at the end of an acquisition cycle.

However, the contracting professional of today and that of the future will be actively involved in the acquisition process from the very beginning stages of requirements development through contract performance through the end of the contract at contract closeout. He will be much more involved as a value-added member of the acquisition team versus being the clerical support who simply "puts it on contract."

3. What are the key drivers that are necessitating a change in the way the contracting professional conducts business?

The key drivers that require the contracting professional to change the way he does business are environmental changes such as the Government moving away from risk avoidance toward risk mitigation, the Government moving away from military specifications to performance specifications, the Government's push of acquisition reform, the Government's push towards commercial business practices, cross-functional teaming arrangements and new qualification standards for the contracting series.

However, a major force that is driving the change is the changing demographics of the Department of Defense workforce. Eleven consecutive years of downsizing from 1989-2000 have drawn down the acquisition workforce by more than 47 percent. The average age of the acquisition professional is 47.4 years old and will soon be eligible for retirement. Furthermore, the Department of Defense is hiring fewer younger people to replace those that will be exiting. The result, the remaining contracting professionals have to "do more with less" and therefore

must enhance their skills and abilities to be able to do so.

4. What new and innovative methods could the acquisition manager use to apply sound business practices in Department of Defense contracting?

Several new and/or innovative methods can be used by the acquisition professional to apply sound business practices in Department of Defense contracting. There are many such methods, five of which were discussed in this thesis. Usage of electronic commerce, reverse auctions, performance-based acquisition, price-based acquisition, and award-term contracting all assist the contracting professional better support his customers in today's acquisition environment. Each provides the contracting professional with a means to applying sound business practices while still providing the customer with value-added support.

5. How can the contracting professional use his new skills in the application of new and/or innovative contracting methods?

The contracting professionals, equipped with their new skills, will be able to apply those skills to the new and innovative contracting methods described within this thesis as well as other contracting methods not contained herein. They will be able to use their own judgment, own experiences, and information they have gained through knowledge management to selectively choose which skills work best in which situations.

As this thesis has shown, the contracting professional will use general business skills across the entire spectrum

of contracting methods as those skills are the mainstays of the acquisition workforce. The contracting professional will then be able to apply core acquisition and advanced acquisition skills selectively as needed for each contracting method. The timing and intensity of the skill usage will be dependent on the individual as well as the contracting method.

E. SUGGESTIONS FOR FURTHER RESEARCH

One area that is ripe for further research into the skills of the contracting professional is the Defense Acquisition University. As a main provider of classroom training to Government personnel, research could be done to analyze whether or not the classes that the Defense Acquisition University offers are relevant in today's ever-changing acquisition environment.

Furthermore, research could be conducted on non-governmental training facilities to determine whether or not they offer business management training that could be applicable to the public sector buying activities.

F. THESIS CONCLUSION

In conclusion, this thesis has provided insight into the current skills of the contracting professional and has provided the background as to why it is necessary for the contracting professional to enhance those skills. This thesis then suggested what new skills the contracting professional may need in the future as well as some of the innovative contracting methods he may be using. Finally, it analyzed those skills as to their implementation and application in the innovative contracting methods described herein.

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